United States Department of the Interior
Bureau of Land Management

Environmental Assessment

DOI-BLM-CO-S050-2014-0035-EA

November 2014

East Side Uncompahgre Field Office
Livestock Crossing EA

Location: *Portions of Montrose & Delta Counties*

U.S. Department of the Interior
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, CO 81401
Phone: (970) 240-5300

BLM

U.S. Department of the Interior
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, CO 81401

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-S050-2012-0035 EA

PROJECT NAME: East Side Livestock Crossing EA

LEGAL DESCRIPTION:

6th Principal Meridian
T. 14 S., R. 93 W., Sec. 31
T. 14 S., R. 94 W., Secs. 26, 35, and 36
T. 15 S., R. 92 W., Secs. 7 and 18
T. 15 S., R. 93 W., Secs. 1, 6, 7, and 12
T. 15 S., R. 94 W., Secs. 1, 2, 3, 22, 23, 26, 27, and 28

New Mexico Principal Meridian
T. 43 N., R. 10 W., Secs. 8 and 17
T. 47 N., R. 10 W., Secs. 4, 5, 8, 17, and 18
T. 47 N., R. 11 W., Sec. 2
T. 48 N., R. 10 W., Secs. 8, 9, 16, 17, 27, 33, and 34
T. 48 N., R. 11 W., Secs. 35 and 36
T. 48 N., R. 12 W., Secs. 12 and 14
T. 49 N., R. 10 W., Secs. 6, 7, 8, 17, 18, and 31
T. 49 N., R. 11 W., Secs. 1, 2, 3, 10, 11, and 12
T. 49 N., R. 12 W., Secs. 2, 3, and 4
T. 50 N., R. 8 W., Secs. 29 and 30
T. 50 N., R. 9 W., Secs. 23, 24, and 25
T. 50 N., R. 11 W., Secs. 5, 6, 7, 8, 17, 18, 19, 20, 21, 22, 26, 27, 28, 30, 33, 34, 35, and 36
T. 50 N., R. 12 W., Secs. 1, 3, 4, 7, 8, 9, 12, 13, 18, 19, 24, 25, 26, 27, 33, 34, 35, and 36
T. 50 N., R. 13 W., Secs. 24, 25, 26, and 35
T. 51 N., R. 9 W., Secs. 30, 31, and 32
T. 51 N., R. 11 W., Secs. 19, 30, and 31
T. 51 N., R. 12 W., Secs. 24, 25, 26, 34, and 36

INTRODUCTION and BACKGROUND

The Bureau of Land Management (BLM) Uncompahgre Field Office (UFO) has prepared this Environmental Assessment (EA) to disclose and analyze the environmental effects of approving or denying livestock crossing permits. Livestock Crossing Permits would authorize the movement of livestock across Public Lands and would occur outside of existing grazing permits. The project area is located on the east side of the Uncompahgre Field Office (UFO), including portions of Montrose and Delta counties.

In February 2012, the BLM UFO solicited the local community for their knowledge of livestock crossing routes which include Public Land in the east side of the UFO, and their interest in applying for crossing permits in future grazing seasons. Grazing permittees and other livestock operators frequently move livestock across BLM managed lands for a variety of reasons. These reasons primarily include (1) moving livestock to and from grazing allotments on BLM managed lands and (2) moving livestock to and from grazing allotments on state, private or other federally managed lands. In response to its request the BLM UFO received maps of regularly used and historic crossing routes within the project area.

In spring 2013, livestock operators in the local area, including current BLM grazing permittees, were asked to submit requests for livestock crossing routes that they expect to apply for permits on in the future so that the BLM could prepare to respond to these future applications. Past practices for issuing livestock crossing permits have been inconsistent. In July of 2012 the Bureau of Land Management, Colorado State Office, issued Instructional Memorandum 2012-031. The purpose of this Instruction Memorandum (IM) is to provide guidance concerning the issuance of livestock crossing permits resulting from applications to cross public lands from current livestock grazing permittees/lessees and non permittees/lessees. The management guidance establishes a consistent approach to the review and issuance of livestock crossing permits.

PURPOSE AND NEED FOR THE ACTION:

The purpose of this action is to respond to BLM livestock grazing permittees and other local livestock operator's applications for permits to cross public lands administered by the Uncompahgre Field Office. The BLM is required, under the 43 CFR 4130.6-3 and 4160 grazing regulations, Federal Land Policy and Management Act (FLPMA) and the Taylor Grazing Act, to respond to requests for livestock trailing/crossing across BLM administered lands. The 43 Code of Federal Regulations (CFR) §4130.6-3 states "A crossing permit may be issued by the authorized officer to any applicant showing the need to cross the public land or other land under BLM control, or both, with livestock for proper and lawful purposes. A temporary use authorization for trailing livestock shall contain terms and conditions for the temporary grazing use that will occur as deemed necessary by the authorized officer to achieve the objectives of this part."

The BLM UFO needs to approve or deny applications received for livestock crossing permits based on protection of identified natural and cultural resources and in compliance with Federal laws and regulations. In addition to the need to comply with federal regulations, as part of the guidance outlined in IM 2012-031, the BLM needs to establish for its offices a standardized system for the application, issuance, and/or denial of crossing applications in the future.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

General Information

In this document livestock crossing is defined as the supervised, active movement of livestock from one location to another. Active movement means livestock are continually walking and stay within the confines of the route, as much as possible. Horses, dogs, or motorized vehicles would be used to herd livestock so that they do not wander off the route or stop to rest, but move continuously to their destination. Cattle can move up to 10 miles in one day. Sheep can move up to 5 miles in one day. For longer routes, designated overnight locations are needed so that livestock may rest, eat, and water overnight.

Complete, start-to-finish crossing routes contain a combination of paved, gravel, and dirt roads, non-road trails, drainages and rights-of-way such as powerlines and pipelines. In addition, there are route segments that are part of multiple comprehensive routes and used by multiple operators at different times with different livestock numbers. In order to achieve an appropriate level of analysis for start-to-finish crossing routes, trails have been split based on differences in livestock numbers and crossing events, and analyzed as stand-alone route segments.

Since the BLM does not control and is not responsible for public activities which occur on Colorado State or County roadways, it is not appropriate for the BLM to issue crossing permits for those livestock crossing activities that occur solely on State and County roadways and on private lands. As with all other non-permitted uses on public lands, livestock trailing activities which occur on state highways and/or county roads that cause adverse impacts to adjacent BLM administered land will be considered unauthorized use and addressed appropriately (BLM IM CO-2012-031). Therefore, state highways and county roads where adjacent Public Land exists have not been included in this analysis.

It should be noted that the route segments in Table 1 represent the maximum number of livestock and the maximum number of events that could occur in 1 year. It is unlikely that these numbers will ever be reached. Some of the start-to-finish routes for which livestock operators applied are not regularly used, and the application was submitted as a back-up plan to trucking or out of a desire to preserve potential use of a historic route for future generations.

The total number of crossing route segments is also inflated because operators have applied for multiple routes which end at the same destination. This is because different routes are used from year to year depending on range management goals. Total livestock numbers per year is further inflated because operators applied for the maximum number of cattle or sheep their operation can carry, which is generally higher than the average number of livestock they own from year to year and higher than the number of livestock they are likely to actually request to move in any given

year. The inflation in numbers of livestock and numbers of routes has been included to allow for maximum flexibility, so that the BLM may consider a wide spectrum of annual crossing applications in the future, based on this analysis.

Proposed Action

BLM UFO is proposing to issue crossing permits with special stipulations to livestock operators who submit applications to move livestock across BLM-administered lands within the east portion of the Uncompahgre Field Office in the area shown on Map 1. The proposed action only considers crossing events where livestock operators either do not have a grazing permit for the allotment they are crossing through, and/or operators who need to cross an allotment they hold a permit for outside of their permitted grazing dates. The routes analyzed are based on potential future crossing requests submitted by livestock operators in 2013.

Livestock crossing permits would be issued for one-time annual use, as applied for, for up to 10 consecutive years on route segments analyzed in this Environmental Assessment, unless resource conditions on the ground substantially change. 43 CFR 4130.6 states that "…crossing permits ... have no priority for renewal and cannot be transferred or assigned." Therefore, crossing permits will not be considered a part of, or a special Term and Condition of, any BLM issued Grazing Permit which holds transferable grazing Preference.

Grazing permittees or other livestock producers requesting to trail livestock across BLM-administered lands would be required to submit an application and pay all applicable fees prior to crossing. The BLM would issue one-time crossing permits which would specify the livestock crossing route, the class of livestock permitted, period of use (dates) during which crossing would be permitted, locations where livestock will be permitted to overnight and the maximum number of livestock which will cross the route during the permitted event. Additionally, special Terms and Conditions specific to each crossing route would be included as needed for resource protection. Prior to issuing any crossing permit, the BLM would ensure that the annual number of livestock and annual number of times a route (or route segment) has been used does not exceed what has been analyzed in the Proposed Action, and is fully compliant with the associated Decision Record.

Routes have been split into segments to ease analysis. Map 1 depicts all livestock trail segments being considered. Table 1 illustrates route segments which are analyzed in the Proposed Action. Routes are analyzed using a 300 foot corridor; 150 feet each side of the centerline of the route. This is the maximum width of expected impact to any road, 2 track, 4WD trail, powerline or pipeline, or drainage. It is recognized that where established roads exist there is a wider surface of existing disturbance, and in some cases fence which confine livestock to the right of way, making it easier for livestock herders to keep animals from drifting. Where no roads exist, it is more likely that livestock will spread out slightly and drift onto a wider surface area. Additionally, different classes of livestock behave and spread out differently during trailing activities. The 300 foot analysis corridor takes into account these factors. Route segments total about 91.5 linear miles and the total area of analysis is 3,288.4 acres.

Table 1 lists the crossing route segments and the total number of cattle and sheep permitted per year for each segment. The maximum number of times used per year is the total number of times the route will be used in one grazing year, and the livestock total is the combined total number of sheep and cattle which will be allowed per segment in one year. Annual authorizations to cross livestock would not exceed the total livestock numbers per year or the maximum route segment uses per year described in Table 1.

Some routes include overnight locations listed in Table 2. Crossing events which utilize the associated route segments would have the option of allowing cattle or sheep to rest overnight at the locations identified. Most overnight locations contain no holding facility such as corrals. Livestock would be permitted to freely graze and water at these locations, and sheep would be permitted to bed-down. Some overnight locations listed in Table 2 are on private land. Impacts to these locations have therefore not been analyzed and will not be a part of any crossing permit issued as a result of this EA; they have been included for a general understanding of trailing activities.

BLM would approve applications for livestock crossing permits on the specified route segments and overnight locations listed in Tables 1 and 2 for any time of year unless resource protection measures prevent crossing during certain seasons or during specific, defined, on-the-ground conditions (see Design Features).

Resource protection stipulations specific to each route would be incorporated based on analysis. This means that individual Terms and Conditions for each crossing permit would be included as needed for items such as special status species and their habitat, wildlife, cultural sites eligible for the National Register of Historic Places, and standards for rangeland health.

Map 1: Route segments to be analyzed under the Proposed Action

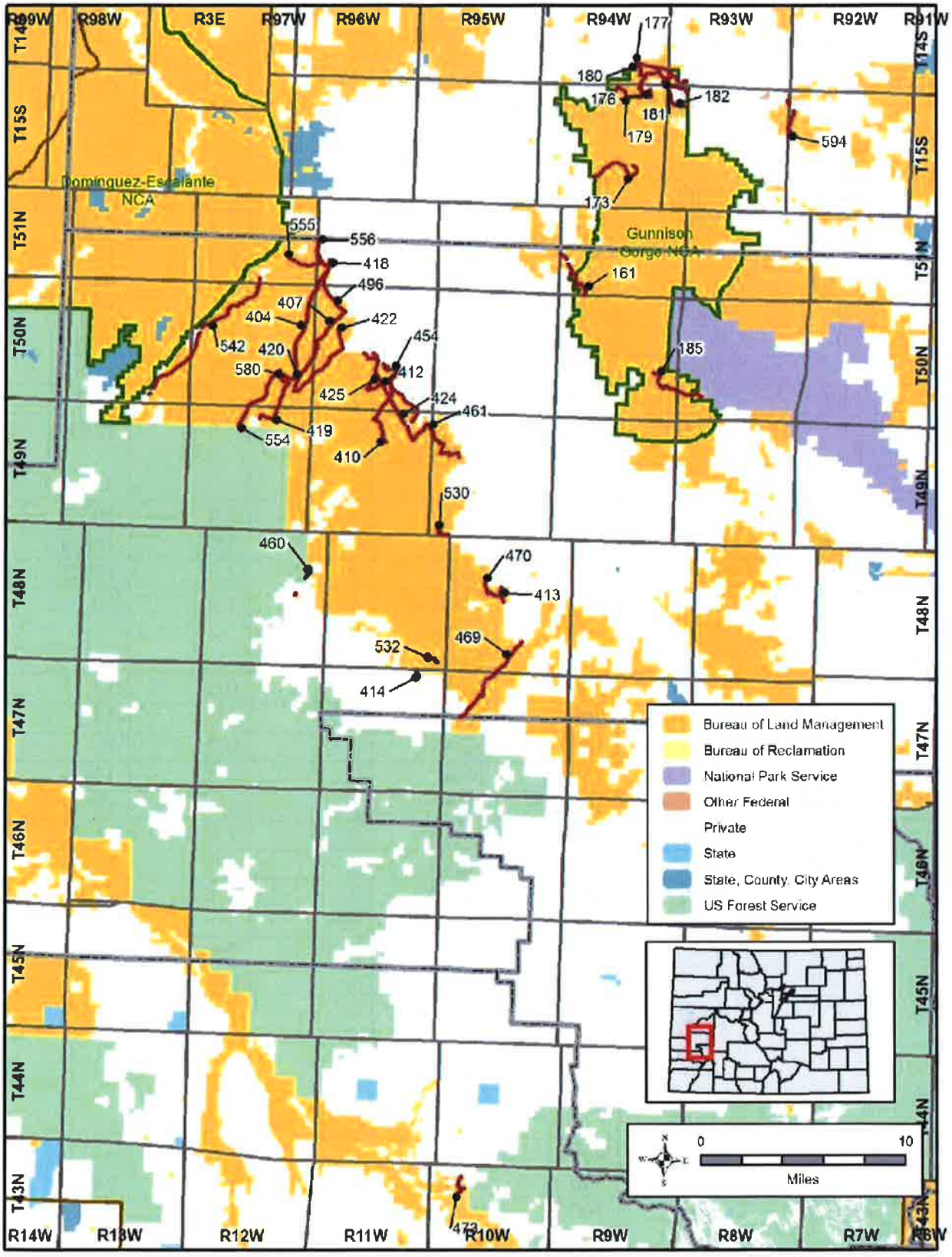

R99W
R98W
R3E
R97W
R96W
R95W
R94W
R93W
R92W
R91W
T14S
T15S
T51N
T50N
T49N
T48N
T47N
T46N
T45N
T44N
T43N
R14W
R13W
R12W
R11W
R10W
R9W
R8W
R7W
R6W
Dominguez-Escalante NCA
Gunnison Gorge NCA
177
180
176
181
182
179
594
173
555
556
418
496
161
407
404
422
542
420
454
580
412
185
425
424
461
554
419
410
530
460
470
413
532
469
414
473
Bureau of Land Management
Bureau of Reclamation
National Park Service
Other Federal
Private
State
State, County, City Areas
US Forest Service
0
10
Miles

Table 1: Route Segments

Route ID	Total Cattle	Total Sheep	Total Livestock	Overnight Locations	Max Times Used per Year	Miles	Acres
161	0	1000	1000	N/A	1	2.8	100.5
173	0	3000	3000	N/A	2	3.3	122.2
176	50	0	50	N/A	2	0.3	13.1
177	160	0	160	N/A	2	2.6	94.2
179	0	7000	7000	Gravel Pit	5	3.5	126.3
180	0	7000	7000	Gravel Pit	5	1.1	37.6
181	0	7000	7000	Gravel Pit	5	2.3	81.8
182	80	0	160	N/A	2	1.7	59.2
185	0	1000	1000	Brush Point 1 & 2	1	3.4	124.0
404	1402	0	1402	N/A	4	5.6	203.1
407	1402	0	1402	N/A	4	4.7	166.6
410	200	0	200	N/A	2	3.5	125.2
412	0	2000	2000	Flatiron Sheep Camp	1	1.9	66.1
413	200	0	200	N/A	2	0.5	17.4
414	200	0	200	N/A	2	0.4	14.1
418	1602	0	1602	N/A	5	0.2	8.3
419	150		150	N/A	2	3.5	127.1
420	1002	0	1002	N/A	2	4.1	145.5
422	0	4000	4000	N/A	2	1.0	36.7
424	260	2000	2260	N/A	3	2.3	83.7
425	0	4000	4000	Burch Corrals	2	2.1	73.9
454	120	0	240	N/A	2	3.6	128.7
460	130	0	130	N/A	1	0.5	18.1
461	0	2000	2000	Powerline or Flatiron Sheep Camp	1	5.6	204.4
469	430	0	860	N/A	2	5.3	193.6
470	400	0	400	N/A	2	1.7	64.0
473	0	1000	1000	Alexande r Corrals	1	1.2	41.7
496	1602	0	1602	N/A	5	2.8	98.1
530	0	2000	2000	N/A	1	0.8	31.1

532	400	0	400	N/A	2	0.4	17.5
542	1402	0	1402	N/A	4	8.0	292.5
554	1402	0	1402	N/A	4	4.1	146.1
555	1402	0	1402	N/A	4	2.2	78.8
556	1402	0	1402	N/A	2	1.5	53.3
580	1402	0	1402	N/A	4	1.0	35.2
594	0	2000	2000	South of Town	2	1.6	58.7

Table 2: Overnight Locations

Overnight ID	Overnight Name	Associated Route ID	Overnight Stipulations ?
10	Horseshoe Bend	177, 179, 180, 181	N/A
11	The Gravel Pit	177, 179, 180, 181	N/A
12	Brush Point Overnight 3	County Road No Route ID	N/A
13	Brush Point Overnight 2	185	Sheep 1 & 2
14	Brush Point Overnight 1	185	Sheep 1 & 2
19	Flatiron Sheep Camp	412	Sheep 1 & 2
20	Etchart Sheep Camp	461	Sheep 1
21	Grey Corrals	414, 532	Sheep 1
22*	Burch Corrals (PVT)	425	N/A
25*	Boyden Corrals (PVT)	418, 496, 555	N/A
26*	Alexander Corrals (PVT)	473	N/A

*Private land not included in analysis.

Design Features:

The Proposed Action includes Best Management Practices (BMP) which will be applied to livestock crossing activities where applicable.

1. ROWs will be avoided to the extent possible (does not apply to road rights-of-way). If they cannot be avoided, caution will be taken to ensure disruption of use or impacts to the facilities do not occur.
2. Trailing will not be allowed during flowering or germination periods where possible.
3. If unplanned overnight stays are needed, locate livestock bed grounds at least 1,000 feet away from water sources such as ponds, streams, wetlands, springs, and seeps.

Under the Proposed Action, livestock crossing routes will be subject to special stipulations based on resource protection needs. Below is a list of the Terms and Conditions which will apply to the routes identified in Table 1 and the overnight locations identified in Table 2. All routes will be subject to General Terms and Conditions and Terms and Conditions for the protection of Cultural Resources.

General Terms and Conditions—Includes all route ID numbers:

1. Livestock operators will adhere to the route described in the Crossing Permit. No deviations from this route will be authorized.
2. Livestock will only cross during the time frame designated in the Crossing Permit.
3. Livestock operators are asked to make a courtesy call to their BLM rangeland management specialist several days before a permitted crossing event is to occur.
4. Livestock will feed, water, and overnight only at the locations designated in the Crossing Permit.
5. Additional watering sites may be required to reduce impacts to riparian, sensitive vegetation or other resources, as identified by BLM.
6. Livestock will be managed in a way that does not encourage the establishment or spread of weeds or other invasive plants and does not conflict with efforts to treat such weeds and invasive plants. Hay for feeding will follow the guidelines outlined in BLM CO IM 1997-005 for noxious weed management.
7. Permittee will place signs along crossing routes warning public of the presence of working dogs.

Terms and Conditions for Cultural Resources—Includes all route ID numbers:

1. If historic or archaeological materials are uncovered during permitted activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the Authorized Officer (AO). Within five working days the AO will inform the operator as to:

    a) whether the materials appear eligible for the National Register of Historic Places;
    b) the mitigation measures the operator will likely have to undertake before the activity may proceed.

2. Pursuant to 43 CFR 10.4(g) the holder of the authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43

CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer

Terms and Conditions for wilderness study areas—Includes Route ID numbers 419, 554, 580:

1. Within wilderness study areas (WSAs) no ground disturbing trail construction or motorized travel may occur, with the following exception: any livestock route in existence prior to October 21, 1976 may be used and maintained in the same manner and degree as what existed on that date.

Terms and Conditions for Soils —Includes route ID numbers 173, 177, 179, 180, 181, 220, 419, 439, 469, 532, 542, 554, 555, 556:

1. Avoid crossing during wet conditions. If depth of hoof prints exceeds 2 inches, find alternate routes on existing roads. This applies to cross country routes directly adjacent to existing roads and routes in drainages and trails with severe erosion hazard.
2. Avoid crossing during "exceptional (D4)" drought conditions as defined by the USDA drought monitor. Alternate routes on roads should be used to prevent pulverization of soil aggregates, soil structure, and biological soil crusts. This applies to routes in drainages and trails with severe erosion hazard.

Terms and Conditions for Federally Protected and BLM Sensitive Plants, including Clay-loving buckwheat and Colorado hookless cactus—Includes route ID numbers 161,177, 179, 220, 404, 419, 439, 469, 470, 532, 542, 554, 555, 556:

1. Motorized modes of travel will stay on designated motorized routes except when retrieving dead or injured livestock or during emergency situations.
2. Within 200 meters (656 feet) of listed plants, motorized access for livestock trailing operations will be limited to existing roads and routes. Any additional access proposed for grazing operations would require additional surveys and Section 7 Consultation.
3. Permittee shall avoid known individuals or populations during livestock herding and trailing activities on BLM administered lands where practical. Maps would be provided to permittees to facilitate avoidance.
4. Trailing activity will be concentrated within existing road corridors as much as practicable and in a timely and efficient manner. Overnighting of livestock within occupied habitat is prohibited unless the area has been cleared for threatened, endangered, and special status species prior to overnight activity.
5. Crossing routes not on existing roads or trails is prohibited unless the area has been cleared for threatened, endangered, and special status species prior to crossing activity. Routes which must be cleared for threatened, endangered, and special status species prior to issuance of a crossing permit are 161, 177, 180, 181, 182, 407, 418, 420, 422, 500, and 555.

Terms and Conditions for Surface Water—Includes route ID numbers 542, 419, 469:

1. Livestock trailing routes should be on benches/terraces above narrow drainages or at least 50 feet from streams and drainages that support riparian zones.

Terms and Conditions for Wild and Scenic River Resources—Includes route ID numbers 419, 542, and 580. May also apply to future WSR designated routes:

1. On livestock crossing routes within the study corridors of eligible or suitable sections of river classified as "wild" and managed under the Wild and Scenic River Act, no trail building, modifications to the stream banks or mechanical removal of vegetation would be allowed.

Terms and Conditions for Bighorn Sheep-1 –Includes Route ID number 424 and overnight location numbers 20, 21

1. All domestic ewes must be bred before crossing onto BLM.
2. Mandatory use of at least two guard dogs per domestic sheep band to deter comingling with bighorn shee.
3. Only healthy domestic sheep shall cross BLM lands.
4. Sweep crossing routes within 24 hours of moving off to capture any strays.
5. Remove sick, physically disabled or dead domestic sheep from BLM lands as soon as possible after discovery.
6. Use only highly gregarious breeds of domestic sheep.
7. Maintain a domestic sheep band of no greater than 2,000 head based on manageability by herder.

Terms and Conditions for Bighorn Sheep-2 –Route ID numbers 161, 173, 179, 180, 181, 185, 412, 422, 425, and 594; Overnight location numbers 13, 14, 19; include the above, plus:

8. Mandatory use of at least three guard dogs per domestic sheep band to deter comingling with bighorn sheep.
9. During spring use, limit domestic sheep band size for ewes with lambs. Numbers would be determined on site-specific information.
10. No yearling domestic ewes will cross BLM land during the bighorn sheep breeding season (Rocky Mountain 11/1-12/31; Desert 8/1-9/30).

No Action Alternative

Crossing permits would not be issued in response to applications, and livestock would not be permitted to cross BLM-administered lands within the project area. It is assumed that applicants would find alternate means to transport their livestock other than crossing public land. For the purposes of analysis, it is assumed that most, if not all, applicants would truck their livestock to and from their allotments. In some cases, failure of the BLM to issue crossing permits as applied for would alter an operator's grazing schedule or limit their ability to utilize other grazing areas, as the only way to graze isolated portions of private, State or federal lands is to trail livestock to them because either there are no roads or the roads that may exist are not passable in a semi-truck.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

Permits with No Terms & Conditions

The UFO considered the alternative to issue crossing permits as applied for with no stipulations for resource protection. This alternative was not analyzed in detail because it does not meet the purpose and need statement. Terms and Conditions are needed on crossing permits in order to protect resource values.

Current Management
An alternative which would continue current management (allowing livestock crossing with no formal permit) was considered but not carried forward because current management is inconsistent with Instructional Memorandum 2012-03. Current management also fails to address and mitigate for potential adverse resource consequences associated with livestock crossing and does not meet the purpose and need statement.

Routes Intersecting Threatened and Endangered or BLM Sensitive Species
The BLM received many requests for analysis on routes where livestock operators anticipated applying for crossing permits in the future. Several of these routes were in locations where Threatened and Endangered species or BLM sensitive species are present. The BLM considered these routes but did not carry them forward in an alternative because it was determined these routes would not meet the purpose and need, which includes protecting natural and cultural resources. Livestock crossing on these routes would not protect natural resources. In some cases the BLM designed an alternate route and included it in the Proposed Action, so that livestock operators may continue to access their BLM allotment or private land via a route where no sensitive species exist. In other cases it was determined that the route was redundant, and the same destination could be reached by county road or via a different BLM crossing route already being analyzed in the Proposed Action.

Trucking
The BLM considered requiring applicants to truck livestock instead of authorizing crossing permits. This alternative was considered but was eliminated from analysis because trucking livestock would be a likely result of the No Action alternative. The effects of this alternative would be similar to the effects of the No Action alternative.

SCOPING, PUBLIC INVOLVEMENT AND ISSUES
Livestock operators who hold BLM permits on the east side of the UFO, and other known livestock operators in the community who do not hold BLM permits, were contacted via letter by BLM in 2012-2013 to obtain proposed trailing needs.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5-3, BLM 1617.3):

Name of Plan: Uncompahgre Resource Management Plan and Record of Decision

Date Approved: 1989

Decision Number/Page: 11

Decision Language: Suitable public lands will be available for livestock grazing use.

Standards for Public Land Health: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. A finding for each standard

will be made in the environmental analysis (next section).

Standard	Definition/Statement
#1 Upland Soils	Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff.
#2 Riparian Systems	Riparian systems associated with both running and standing water, function properly and have the ability to recover from major surface disturbances such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment, and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.
#3 Plant and Animal Communities	Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.
#4 Threatened and Endangered Species	Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.
#5 Water Quality	The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

Land Health Assessments to determine compliance with the above Standards have been conducted for the east side of the UFO within the last 10 years. In 2012 the UFO completed the Gunnison Gorge Land Health Assessment; in 2007 the North Fork LHA was completed; in 2006 Roubideau Land Health Assessment was completed.

AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the human and environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the Proposed Action and the No Action alternative.

Cumulative impacts of the proposed action and no action are shown in the analysis of each element. Past, present and reasonably foreseeable actions known to the BLM that may occur within the affected area are shown at the end of this section.

Potential effects to the resources/concerns in the table (below) were evaluated to determine if detailed analysis is necessary. Consideration of some elements is to ensure compliance with laws, statutes, regulation or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general or to the BLM Uncompahgre Field Office (UFO) in particular. Any element not affected by the proposed action will not be analyzed.

Elements	[1]Not Present	[2]Present / No Analysis Needed	[3]Present / Requires Further Analysis	Rationale if not Analyzed
Air Quality	X			
ACEC		X		One route goes through 0.09 miles of the Native Plant ACEC, following an existing jeep trail. This comprises a negligible distance in an area with no sensitive plants or other resources on an already disturbed surface.
Wilderness	X			No designated wilderness exists in the project area. Trails do not cross wilderness.
Wilderness Study Area (WSA)		X		Use of the proposed routes through Camelback WSA would result in negligible ground disturbance, and would be in compliance with WSA management policy as detailed in BLM Manual Section 6330.
Lands with Wilderness Characteristics		X		Use of Route ID 542 within the Camelback WSA Adjacent wilderness characteristics unit would have a negligible effect on opportunities for solitude for the brief periods when the trail is in use. There would be no effect on any other characteristics. This use would have no effect on the status of the unit.
Wild and Scenic Rivers			X	
Cultural			X	
Native American Religious Concerns			X	
Farmlands, Prime/Unique	X			The crossing routes are entirely on BLM lands where soils are not considered prime and unique because they are not irrigated.
Soils			X	
Vegetation			X	
Invasive, Non-native			X	

Species				
Threatened and Endangered Species			X	
Migratory Birds			X	
Wildlife, Terrestrial			X	
Wildlife, Aquatic			X	
Wetlands & Riparian Zones			X	
Floodplains			X	
Water -- Surface			X	
Water -- Ground		X		Groundwater will not be impacted by the surface impacts of livestock crossing.
Wastes, Hazardous or Solid	X			The action would not create or impact wastes to the degree it needs to be analyzed.
Environmental Justice		X		The action would not impact any populations disproportionately. The action is based on resource concerns and protection of resources from the impacts of livestock crossing events.
Socio-Economics			X	
Access		X		The action would not impact or affect access.
Transportation		X		The action wouldn't change the existing decisions for the transportation system within the areas nor would it have significant impacts to users.
Cadastral Survey		X		Issuance or denial of livestock crossing permits would not impact cadastral surveys.
Realty Authorizations		X		It is not anticipated that the Proposed Action would cause harm or disruption of use to rights-of-way.
Range Management			X	
Forest Management	X			This action will not impact forestry resources or management.
Fire	X			This action would not alter wildland fire frequency or

				behavior.
Noise	X			This action would not impact noise levels on BLM
Recreation		X		Recreational users would not be affected beyond a negligible amount and is only expected to displace users for short periods of time.
Visual Resources		X		The proposed action would not change the character of the landscape or the visual inventory, and would not have an impact on visual resource management.
Geology and Minerals		X		Livestock trailing would not impact geology or minerals, or the extraction of minerals.
Paleontology	X			Crossing activities have been determined to have minimal impact to paleontological resources.
Law Enforcement		X		The proposed action would not increase the potential for criminal activity, and would not impact law enforcement.

[1]Not present: the element is not present in the area impacted by the proposed or alternative actions.

[2]Present but no analysis needed: the element may be present, but not affected to a degree that detailed analysis is required.

[3]Present and requires further analysis: the element is present and requires further analysis because:
1) analysis of the issue is necessary to make a reasoned choice between alternatives, or
2) analysis of the issue is necessary to determine the significance of impacts.

WILD AND SCENIC RIVERS

Affected Environment:

The project area includes both the UFO planning area and the Gunnison Gorge National Conservation Area (GGNCA) planning area. Both areas are at different stages of the Wild and Scenic River (WSR) study process.

The UFO planning area has gone through the process as far as determination of stream segments that are *eligible* for inclusion in the National Wild and Scenic River System (NWSRS). (See the UFO Final WSR Eligibility Report.)

The GGNCA planning area has gone through the process as far as the determination of stream segments that are *suitable* for inclusion in the NWSRS. (See Appendix I of the GGNCA RMP.)

Although Congress has not designated WSRs in either planning area, BLM manages the eligible segments in the UFO planning area and the suitable segments in the GGNCA planning area under protective management as directed by BLM Manual Section 6400. Until Congress either designates or releases river study segments that have been determined eligible or suitable for inclusion in the NWSRS, BLM must manage them to protect or enhance the Outstandingly Remarkable Values (ORVs) and preserve the tentative classification (wild, scenic or recreational) of each segment.

BLM Manual Section 6400 specifically directs the management of grazing activities within WSR eligible and suitable segments as follows:

H. *Livestock Grazing*

1. *Wild, Scenic, and Recreational.* Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. Any new facilities to facilitate livestock management should be unobtrusive so as to maintain the values for which a river was found eligible or suitable.

Environmental Consequences:

Proposed Action –

Several of the proposed livestock crossing routes are within river study corridors of river segments determined to be eligible or suitable for inclusion in the NWSRS.

GGNCA

These include routes 176, 181 and 182 within GGNCA. All three routes are within Segment 2: Gunnison River (From Transmission Line South of North Fork to Relief Ditch Company Diversion). This segment of the Gunnison River has been determined to be suitable for inclusion in the NWSRS with a tentative classification of *recreational*. The ORVs for this river segment are *recreational* and *scenic*.

About ½ mile of Route 181 is within the study corridor. It is all above the cliff line, and is not visible from the river. There would be no impacts to the ORVs or to the tentative classification.

About 1 mile of Route 182 is within the study corridor, adjacent to the river, and visible from the river. It utilizes an existing trail (North Fork to Smith Fork Trail) within the study corridor. The proposal to use the trail twice per year to move 180 cattle would impact recreational opportunities on that trail for perhaps a couple of hours each time. This would be a negligible impact to the recreational ORV and no impact on the scenic ORV. The tentative classification of recreational would not be affected.

About 1/3 mile of Route 176 is within the study corridor. The route follows the Angell Ranch access road adjacent to Cottonwood Grove Campground. The proposal is to run 50 cattle through the area twice per year. Having the cattle cross on the road adjacent to the campground would be noticeable to people using the campground, but would be a negligible impact to the recreational experience and setting of the campground.

UFO

Several of the proposed livestock crossing routes are within UFO river study corridors of river segments determined to be eligible for inclusion in the NWSRS.

About ¾ mile of Route 542 is within the river study corridor of Potter Creek; and about ¼ mile of the route is within the river study corridor of Monitor Creek. The route would not be visible from either creek and would have no effect on the ORV (vegetation) or tentative classification (wild) of either river segment.

About 1/3 mile of Route 542 is within the river study corridor of Roubideau Creek Segment 2. Most of the route is visible from the creek, and follows an existing constructed trail. The route leads from the uplands above the creek to the creek, but does not travel along the creek. Because it contacts the creek at a single point, and does not follow the creek, it would have negligible effects on the wildlife and vegetation ORVs. The tentative classification of scenic would not be affected.

About 4/10 mile of Route 555 is within Roubideau Creek Segment 2. It leads from the uplands above down to the creek. The route is visible from the creek. Effects would be the same as those for Route 542, above.

About ½ mile of Route 556 is within Roubideau Creek Segment 2. It leads from the uplands above down to the creek. The route is visible from the creek. Effects would be the same as those for Route 542, above. The portion of this route within the WSR study corridor is entirely on private land.

Routes 419 (1 mile within the WRS corridor), 554 (1/4 mile within the WRS corridor) and 580 (3/4 mile within the WRS corridor) are within Roubideau Segment 1. Each leads from the uplands above the creek down to the creek. None of these routes follow the creek. Because they are not near any sensitive cultural sites, the routes would have no effect on the cultural ORV. Because they each contact the creek at a single point (419 contacts the creek at 2 points), and do not follow the creek, they would have negligible effects on the recreational, wildlife and vegetation ORVs.

Cumulative Impacts –There would be no cumulative effects on WSR resources.

No Action Alternative – WSR resources would be unaffected.

CULTURAL RESOURCES

Affected Environment:

The proposed cattle crossings are situated at various elevations and in a variety of ecological zones. Most trails conform to existing roads and tracks, with few being used on a "cross-country" basis. Most proposed trails were dropped from inventory requirements under the provisions of BLM 8100 manual .23B2 which does not require survey in human altered

environments (such as roadways). Other individual trail segments were identified as requiring inventory, since these routes were either cross country, in gullies or washes, or along un-fenced roadways.

Environmental Consequences:

Proposed Action – The BLM archaeologist will inventory all of these proposed routes in fall 2014 and spring 2015, prior to the issuance of crossing permits. Where eligible sites are discovered within the crossing ROW, the route will be re-routed to avoid the site or other appropriate mitigation will be implemented. No National Register or otherwise eligible cultural properties will be affected by the issuance of these crossing permits.

Cumulative Impacts –There are no cumulative effects to Historic Properties as considered.

No Action Alternative – There will be no impacts to Cultural Resources.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment:

During the Cultural Resource inventory of the proposed trails, there will be a concurrent inventory for any properties of concern to Native American tribes, including Religious or Sacred sites, landscapes and Traditional Cultural properties. There are currently no known or anticipated effects to and Native American Religious Concerns from the issuance of these permits. If such evidence is found, the appropriate mitigation will be implemented after consultation with the appropriate tribal entities.

Environmental Consequences:

Proposed Action – There are no impacts. Should future Tribal Consultations reveal the presence of any concerns which may be impacted by cattle trailing, the appropriate mitigation measures will be implemented in consultation with the Native American Tribes concerned.

Cumulative Impacts – There are no known cumulative impacts.

No Action Alternative – There are no impacts.

SOILS (includes a finding on Standard 1)

Affected Environment:

The soils impacted by crossing routes are described in the Paonia and Ridgway Soil Survey (USDA, Natural Resources Conservation Service). In general, the sedimentary sandstone and shale formations that dominate the surface geology of the area produce soils having textures dominated by loams and fine sandy loams. The soils in the lower and more arid portions of the

area are mostly classified in the soil orders Aridisols (soils of dry climate regimes) and Entisols (soils with very limited development), and have little organic matter throughout their vertical profile. At the higher elevations, soils are mostly in the soil order Mollisols (soils having darkened, organic matter enriched surfaces).

Three Land Health Assessments cover the area of interest and have more detailed descriptions of the soils present and specific health conditions. The Gunnison Gorge (2011), North Fork (2007), and Roubideau (2005), and can be found here: http://www.blm.gov/co/st/en/fo/ufo/land_health.html.

One of the important components of arid soils in this EA is biological soil crusts (BSC). BSC help stabilize the soil and inhibit wind and water erosion by forming a blanket or mat covering and binding the soil surface. BSC is a complex mosaic of cyanobacteria, green algae, lichens, mosses, microfungi, and other bacteria. The crusts also serve a critical role in nutrient cycling, water infiltration, and seedling germination (USDI 2001).

Environmental Consequences:

Proposed Action – Livestock crossing can directly impact soil conditions by concentrating hoof action and reducing vegetative cover and biological soil crust. These two factors are critical in maintaining soil health and moisture content. The majority of the crossing routes are concentrated on existing roads. The table below shows the crossing routes that are located in drainages or on trails where livestock are likely to follow natural routes which can lead to developing ruts and gullies. These are also the routes located on the soils most susceptible to erosion.

Table 3

Route ID	Route Type	Livestock (Head)	Historic Season	Distance (Miles)	Runoff Potential	Erosion Hazard (Trails)	Land Form
173	Trail	3000	Fall/Winter	1.7	High to Very High	Severe	Floodplains, gullies, uplands
177	Trail	160	Winter/Spring	1.3	High	Severe	Benches, mesas, pediments
179	Trail	7000	Fall/Winter/Spring	2.1	Very High	Severe	Badlands, benches, mesas
220	Trail	700	Late Spring/Fall	6.1	High	Severe	Mountain slopes, uplands
419	Drainage	1402	Spring/Fall	2.9	High	Severe	Floodplains
439	Trail	<Null>	<Null>	0.4	Very High	Severe	Cliffs, ledges
469	Trail	860	Spring/Fall	5.3	Medium to Very High	Severe	Valley sides, cliffs, ledges
532	Trail	400	Spring/Fall	0.4	High	Severe	Cliffs, ledges
542	Trail	1402	Spring/Fall	9.8	Very High	Severe	Cliffs, ledges
554	Trail	1402	Spring/Fall	1.4	Medium	Severe	Valley sides, mesas, benches
555	Trail	1402	Spring/Fall	1.5	Medium	Severe	Valley sides, floodplain
556	Trail	1002	Spring/Fall	0.9	Very High	Severe	Benches, escarpments, canyons

Erosion Hazard in the table above is a factor determined by the NRCS in the soil survey. It is a combination of the soil's susceptibility to erosion (k factor), slope, and content of rock fragments. These three variables are combined to arrive at an overall rating. In the drainages and trails above, the "severe" rating would indicate that significant erosion is expected, and that

these trails may need frequent maintenance or erosion control measures. Runoff potential is determined based on the infiltration rate of the soil. Clay soils with slow infiltration rates have the highest runoff potential and are found largely on the Mancos Shale formations.

Trails 177,179, 180 and 181 are located in the Mancos Shale along the Gunnison River. Historic crossing routes are evident in the contours left on hillsides where livestock use the same trails around terrain features. Where contours merge, runoff is concentrated and soils are mobilized downslope. Sediment production on Mancos Shale is increased 10 times once it has been disturbed (Belnap et. al., 2009).

A total of 33.8 miles of crossing routes would have direct physical hoof impacts on soils with the highest potential for erosion and runoff. On trails and in drainages, livestock are free to move through the terrain and often choose the path of least resistance. This leads to more defined trails devoid of vegetation or biological soil crust. One benefit of the continued use of the same trails created by the livestock is the lack of impact to a new route each time livestock pass through the area. The 33.8 miles represents 31% of the total crossing routes. The remainder of the crossing routes are on BLM roads.

Overnight locations concentrate impacts in one area. Impacts in those areas would be similar to those found on routes; compacted soils devoid of vegetation and biological soil crust. The benefit of defined overnight locations is concentrating the impacts to the same area year after year. The area impacted represents a small fraction of the BLM land analyzed.

The proposed action would disturb 33.8 more miles of soils with the potential for severe erosion hazard on BLM land than the No Action alternative. If conditions are wet or exceptionally dry during trailing events, the impacts to soils would increase. Design features 1 and 2 under Terms and Conditions for Soils will help reduce the impacts of crossing during wet and drought conditions.

Cumulative Impacts – This action, when combined with the past, present and reasonably foreseeable actions, would add to impacts from other activities on private and federal lands in the watershed, and would contribute to decreased soil health. The area analyzed for cumulative impacts is approximately 700,000 acres of public and private lands. Other activities causing impacts to soils on private, BLM and Forest Service lands in the watershed include: oil and gas development, irrigation and farming, rights of ways, residential and municipal development, recreation, and travel infrastructure.

The 33.8 miles of crossing routes on soils susceptible to severe erosion on BLM land represents a small fraction of the impacts occurring on public and private lands in the cumulative impact area. The types of impacts expected from other actions in the watershed would be similar to those described for the proposed action. The cumulative effect of all the impacts in the watershed would contribute to decreased soil health.

No Action Alternative – No impacts to soil resources on BLM are anticipated from the No Action Alternative due to trailing activities.

Finding on the Public Land Health Standard for upland soils: The BLM completed three Land Health Assessments (LHAs) in the crossing area. Assessment of soil health is conducted using the following indicators: evidence of excessive rills and pedestals, active gullies, appropriate groundcover and plant canopy cover (including BSC), adequate plant litter accumulation, minimal litter movement, appropriate soil organic material, and plant species diversity and presence of vigorous, desirable plants. Much of the area's soils were rated as meeting the soil standard but with problems, meaning at least two of the above, soil surface indicators were not adequate for the site. More detailed information can be found in The Gunnison Gorge (2011), North Fork (2007), and Roubideau (2005) LHAs. Crossing routes existed at the time of these assessments; with the proposed design features in this action the overall soil health would be expected to improve slightly. Standard 1 would continue to be identified as met until further assessed.

VEGETATION (includes a finding on Standard 3)

Affected Environment:

Livestock crossing on public lands in the project area affects a variety of vegetation types. The primary types include pinyon-juniper woodland, sagebrush, saltdesert shrub, grass-forb rangeland, and mountain shrub. Small areas of ponderosa pine, montane woodland, and riparian vegetation are also affected. Detailed descriptions of these plant communities can be found in the Roubideau, Gunnison Gorge NCA, and Northfork, Land Health Assessments at http://www.blm.gov/co/st/en/fo/ufo/land_health.html.

The livestock crossing routes pass through 924 acres of native plant communities, many of which are in relatively good condition. Miles of route passing through good condition range is approximately 26, while there are 59 miles of crossing routes passing through communities known to have some ecological problems. The following types of problems have been noted in the vicinity of some of the crossing routes: exotic plants, low perennial forb cover, low perennial cool season grass cover, low plant species diversity, noxious weeds, low shrub vigor, low warm season grass cover, and heavy hedging on shrubs.

There are some plant communities, because of their global scarcity, that are of special interest. There are approximately 27 miles of crossing routes which dissect areas of vegetation with important biodiversity values. Of these routes 13 miles pass through areas of very high biodiversity importance, 12 miles cross high biodiversity with 1 mile passing through areas of moderate biodiversity.

Environmental Consequences:

Proposed Action – Livestock crossing can cause direct plant damage or death, or result in the removal of vegetation on heavily travelled paths within the crossing route. Typically these paths occupy only a very small proportion of the width of the crossing route. The majority of vegetation within a crossing route receives lesser impacts associated with occasional trampling, dust or sediment deposition, or increased competition from weeds. These lesser impacts usually result in a slightly degraded vegetation community as compared with outside the crossing route. The degradation is often in the form of higher levels of weeds and invasive species, fewer woody

species, and more annual or rhizomatous herbaceous species. Because the Proposed Action authorizes the crossing activities which have been ongoing for many years, but with terms and conditions for resource protection, a slight positive change to current vegetation conditions are expected to occur within most routes.

Fifty nine miles of crossing routes pass through lands with documented land health problems that are attributed to vegetation issues. Livestock crossing activities may be contributing to some of these vegetation concerns. However, the scale of the land health problems extends far beyond the narrow corridor that encompasses the crossing activity. Under the Proposed Action, design features which include active livestock movement and overnighting only in designated corrals/ traps or designated areas will be an improvement over current practices. Less vegetation will receive incidental grazing, and there is likely to be slightly less trampling as livestock are actively moved. The same vegetation impacts are expected to occur in the vegetation communities of special interest. Vegetation conditions in crossing areas are expected to stay stable, or slightly improve as a result.

In cases where excessive vegetation damage associated with livestock crossing is occurring, the BLM may designate additional watering sites within the crossing route located away from these sensitive communities in order to reduce pressure they may receive. Appropriately located livestock water could increase the speed and orderliness of livestock movement, and reduce trampling.

Cumulative Impacts – This action, when combined with past, present and reasonably foreseeable actions, will have negligible impact to vegetation at the watershed level. Slightly more intensively managed livestock crossing in the eastern part of the UFO, including areas of the Uncompahgre Plateau and the south facing slopes of the Grand Mesa, could result in very small improvements in vegetation along the crossing routes, but the effects will be negligible. Vegetation at the watershed scale is subject to a variety of impacts on federal lands such as those associated with wildfire, vegetation treatments, livestock grazing, wildlife use, rights of ways, recreation, adjacent private inholdings, and travel infrastructure. Impacts to vegetation resulting from activities on private property in the watershed include cultivation, irrigation, livestock production, residential and commercial land development, and mining. The scale and scope of these other impacts further reduces the degree to which vegetation changes resulting from this alternative would affect overall vegetation health in the watershed.

No Action Alternative – This alternative would not impact plants through trampling or incidental grazing. In the absence of livestock crossing, vegetation along the crossing routes would likely gradually transition to become more similar to vegetation outside of the crossing routes. There would likely be incremental improvements to vegetation health in the crossing routes.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Invasive, Non-native Species): Currently, 26 miles of crossing routes pass through lands which meet Standard 3, 43 miles pass through lands meeting Standard 3 with problems, and 16 miles pass through lands which do not meet Standard 3. Because the crossing routes are narrow corridors which pass through much larger land health

polygons, neither alternative would result in enough vegetation changes over a large enough area to affect the current Standard 3 ratings. Improved crossing practices as outlined in the design criteria will be compatible with improving vegetation conditions in the areas with land health problems.

INVASIVE, NON-NATIVE SPECIES (includes a finding on Standard 3)

Affected Environment:

Noxious weeds and invasive plants are found in varying degrees throughout the east side of the Uncompahgre Field Office. State listed noxious weeds and BLM weeds of concern are scattered in isolated infestations across the project area. Common weeds within the route analysis buffer are Russian knapweed (*Acroptilon repens)*, spotted knapweed (*Centaurea maculosa)*, hoary cress (*Cardaria draba)*, and horehound (*Marrubium vulgare*). Infestations occur along roadways, drainages, right-of-way corridors, along cross country livestock routes, in and around corrals, and are associated with new ground disturbance activities. A systematic survey of the area has not been completed to date. Existing survey data indicates some routes contain substantial noxious weed infestations. Table 4 illustrates the top five noxious or invasive species in the project area and documented locations.

Routes 161, 176, 177, 180, 181, 404, 407, 419 have notable populations of Russian knapweed within the buffer analysis area. Brush Point 1 and 2 overnight locations (and associated route 185) also have small populations in the vicinity. Burch and Boyden private land corrals, while not analyzed in this EA, contain or are very near infestations of Russian Knapweed. Russian knapweed is a Colorado Noxious Weed List B species. List B weed species are species for which state, local and other interested parties develop and implement weed management plans designed to stop the continued spread of these species (2014, Colorado Department of Agriculture). Russian knapweed emerges in early spring after soil temperatures are consistently above freezing. It flowers from June to August and sets seed in September and October. Seeds may remain viable for up to three years. Russian knapweed forms adventitious shoots, which are its primary form of reproduction. Buds on the horizontal roots emerge in August and can continue to grow through early winter and establish as independent plants. Root and stem fragments have the ability to easily establish new plants. This means that spread of Russian knapweed can occur through seed transport as well as through transport of broken stem and root material. In addition, Russian knapweed produces allelopathic toxins which inhibit the growth of competing plants. In this way it can establish as a monoculture in a short time (2014, Colorado Department of Agriculture).

Populations of spotted knapweed can be found along routes 177, 181, 414, and 532, as well as in other very small isolated spots along other routes. Grey corrals and associated routes 414 and 532 have a sizeable monoculture within the analysis buffer area that is of concern. Burch and Boyden private land corrals also contain or are very near infestations of spotted knapweed. Spotted knapweed is a Colorado Noxious Weed List B species. It is a biennial or short lived

perennial that, like Russian knapweed, has the ability to establish and reduce desirable plant communities in a short amount of time. Spread of the species is primarily via seed transport, as it can produce up to 900 seeds per year per plant. Primary growth occurs from June to October, with seed set occurring in late August-September (2014, Colorado Department of Agriculture).

Hoary cress is a Colorado Noxious Weed List B species, with populations found along routes 177, 181, 182, 425, 454, and 496. Burch and Boyden private land corrals, while not analyzed in this EA, contain or are very near infestations of hoary cress. Like spotted knapweed, it is a voracious seed producer, with each plant producing 1,200 to 4,800 seeds per year. Hoary cress is an early season producer, with flowers emerging from May to June, seed set by mid-summer, and senescence in early fall (2014, Colorado Department of Agriculture).

Horehound is found in small patches along routes 161, 177, 181, 404, 418, 454, 425, 496, 542, 555, 556. It is also found at private land corrals in the project area. It is not on the Colorado Noxious Weed List; however, it is an invasive, non-native species of concern and is listed as a state noxious week in other livestock producing states such as Texas. Horehound is a bushy, aromatic perennial herb, similar in shape and form to lavender. It spreads by seed which are primarily dispersed by animals, as the fruit or burr which is produced by the seed readily attaches to wool, fur, clothing and similar materials. Mature plants can produce in excess of 20,000 seeds per year, although the more numerous and smaller plants produce about half this number. Anecdotal evidence indicates that seeds can survive in the soil for 7-10 years (2014, Texas Invasives.org).

All weeds in the project area are most commonly found on disturbed sites such as ditch banks, roadways and rights of way, livestock trails and corrals, and degraded rangeland, pastureland and cropland. They are easily spread via livestock transport. Prevention of establishment through best management practices is the most effective control method for these species. On established sites, aggressive integrated weed management practices which include biocontrol, herbicide, and planting of competing species can be effective in preventing spread of invasive, non-native plants. Eradication is generally difficult in areas where large monocultures are persistent.

Table 4: Common Weeds in the Project Area

Common Name	Acres	Route ID	Overnight Locations
Russian Knapweed	647	161, 176, 177, 180, 181, 185, 404, 407, 419	Brush Point 1 & 2, Boyden Corrals (PVT)

			Burch Corrals (PVT)
Hoary Cress (whitetop)	137	179, 181.425, 454, 496	Boyden Corrals (PVT) Burch Corrals (PVT
Spotted Knapweed	137	177, 181, 182, 414, 532	Grey Corrals
Horehound	117	161, 177, 181, 404, 418, 454, 425, 496, 542, 555, 556	Boyden Corrals (PVT) Burch Corrals (PVT)

Environmental Consequences:

Proposed Action – Crossing route areas frequently have degraded vegetation, which potentially results in slightly higher level of weeds and invasive species (see the Vegetation section). Livestock could introduce and spread noxious weeds during crossing events. If established infestations on and around crossing routes are allowed to persist without intervention, they have a high potential to serve as points of spread into currently non-infested parts of Public Land. The Proposed Action, which includes Design Feature 6 under General Terms and Conditions and specifically addresses weed management, would help prevent a widespread increase in noxious weed infestations. Active noxious weed control by the BLM, and cooperative weed treatment agreements with County, State and other Federal agencies would continue.

However, in areas where there are large monocultures of noxious weeds, such as on routes 161 177, 179, 180, 181, 414, 419, 532, all routes along the tri-state powerline, and at Grey, Burch, and Boyden overnight corrals, the potential for weeds to persist and spread to new areas is higher. Livestock move weed seeds via their hoofs, hide and wool, and manure. Crossing events concentrate livestock into small areas where they pick up weed seeds along the route and/or at overnight locations, and spread those seeds along the route. Thus there is an increased chance that they will move weed seeds to un-infested areas of the route as well as on to the grazing area destinations. Similarly, weed seeds which come off of private land pastures and corrals have the potential to establish new weed infestations or spread existing infestations.

Cumulative Impacts – Cumulative impacts of the proposed action, when considered within the larger region, or across a longer time period, may occur. Activities which disturb soil, such as road construction, construction of range improvements, construction and maintenance of rights-of-way, and the use of roads and improvements by other visitors can add to weed infestation and spread. Other activities which can add to weed spread are Public Land grazing and non-motorized and motorized recreational activities. Cumulative impacts from livestock crossing with these activities could be an increased rate of weed spread in areas where weeds are already established, and new infestations in places where weeds are not established. However,

given the size of the project area relative to the size of the field office as well as the numerous activities which cause weed infestation and spread, noxious and invasive species throughout the area will likely continue to establish and spread at current rates.

No Action Alternative –The No Action alternative would have no impact to noxious weeds.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Vegetation): See the Vegetation section for additional information. The proposed action would not contribute to the area not meeting land health standards for plant and animal communities.

THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE (includes a finding on Standard 4)

Affected Environment:

The Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1534) mandates the protection of species listed as threatened or endangered of extinction and the habitats on which they depend. Section 7 of the ESA clarifies the responsibility of federal agencies to utilize their authorities to carry out programs for the conservation of listed species. In addition, federal agencies must consult with the U.S. Fish and Wildlife Service (Service) to ensure that any action authorized, funded or carried out by the agency is "…not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species…". The Uncompahgre Field Office (UFO) utilizes the U.S. Fish and Wildlife Service *Information, Planning, and Conservation* System (IPaC) to generate the most current species list to analyze the effects of a Proposed Action on threatened, endangered and candidate species and designated critical habitat for these species.[1] Additionally, the BLM has a state-wide list of Sensitive Species for management consideration. In accordance with BLM Manual 6840, the goal of management of these species is to prevent a trend toward federal listing or loss of viability.

A spatial analysis was conducted to assess which routes and overnight locations have potential to intersect with special status species.[2] From that analysis, a list of species for impacts analysis is found in Table 5, below.

Table 5: Special status terrestrial species for consideration in effects analysis.

Common name	Scientific name
Desert bighorn sheep	*Ovis Canadensis nelson*
White-tailed prairie dog	*Cynomys leucurus*
Kit Fox	*Vulpes macrotis*
Big free-tailed bat	*Nyctinomops macrotis*
Spotted bat	*Euderma maculatum*

[1] USFWS. 2014. List of threatened and endangered species that may occur. Consultation Tracking Number: 06E24100-2014-SLI-0168. August 4, 2014.

[2] BLM. 2015. Wildlife, fish and rare plant report for East Side Livestock Crossing Permit Area, Uncompahgre Field Office. Project File for 2014-0035 EA.

Townsend's big-eared bat	*Corynorhinus townsendii*
Fringed myotis	*Myotis thysanodes*
American peregrine falcon	*Falco peregrines anatum*
Ferruginous hawk	*Buteo regalis*
Burrowing owl	*Athene cunicularia*
Brewer's sparrow	*Spizella berweri*
Midget faded rattlesnake	*Crotalus oreganus concolor*
Milk snake	*Lampropeltis triangulum taylori*

*If a route passes through TES species habitat, the entire route segment was used to calculate the miles of route.

Federally Listed Species

According to IPaC, the project area has potential for 3 federally listed bird species (Gunnison sage grouse, Mexican spotted owl and yellow-billed cuckoo), and 1 mammal species (Canada lynx).[3] None of these species are expected based on habitat and current range/location information; No effect is expected to these species and there is no further discussion of these species.

BLM Sensitive Species

Table 5 identifies BLM sensitive species that are known or have potential to occur within the UFO and are brought forward for analysis. For a more detailed discussion of species, please see the project record.[4]

Desert bighorn sheep is a subspecies of bighorn sheep that occurs in seven states (CO, TX, CA, AZ, UT, NM, NV) across the desert Southwest regions of the United States. Smaller than their Rocky Mountain cousins, desert bighorn sheep are well adapted to living in the desert heat and cold. There is no documented evidence that desert bighorn sheep occurred in Colorado when European settlers first arrived. However, archeological evidence, the close proximity of historic desert bighorn populations in Utah, and suitable desert bighorn habitat in southwestern Colorado make it likely that desert bighorns did historically occur in southwestern Colorado in at least small numbers[5]. In contrast to deer and elk, bighorn sheep populations historically declined sharply during the early settlement years of the West and have never recovered. Fewer than 80,000 sheep are believed to roam the west from Canada to Mexico, compared to an estimated 1.2 million head of bighorn that existed at one time[6] Desert bighorn sheep are considered by CPW as Tier 1 for management for inventory, habitat protection and improvement, disease prevention, and research.[7]

---

[3] USFWS withdrew a proposal to list the North American wolverine in the contiguous United States as a threatened species on August 13, 2014. http://www.fws.gov/policy/library/2014/2014-18743.pdf

[4] BLM. 2015. Wildlife, fish and rare plant report for East Side Livestock Crossing Permit Area, Uncompahgre Field Office. Project File for 2014-0035 EA.

[5] CDOW. 2009. Page 5 *in* Colorado Bighorn Sheep Management Plan 2009–2019. Special Report Number 81. Denver, CO: Colorado Division of Wildlife, Terrestrial Resources. Available online: http://cospl.coalliance.org/fedora/repository/co:3392

[6] Krausman, P.R. & Shackleton, D.M. (2000). Bighorn Sheep. In Ecology and Management of Large Mammals in North America. Eds. Demarais, S., and Krausman, P.R. Pages 517–544. Upper Saddle River, NJ: Prentice-Hall

[7] CPW. 2013. Desert Bighorn Sheep Addendum to the Colorado Bighorn Sheep Management Plan 2009–2019. Denver, CO: Colorado Parks and Wildlife.

There are only three desert bighorn sheep populations in the state of Colorado: Uncompahgre (S62), Dolores (S64, S63), and Black Ridge (S56). The estimated desert bighorn sheep population gradually increased from 1990 to 2001 when it was estimated at around 480. In 2002 and 2003, estimated desert bighorn sheep numbers in Uncompahgre and Dolores River populations dropped considerably, presumably due to all-age die offs. Estimated desert bighorn sheep numbers have increased gradually since 2003. Uncompahgre (S-62) is located in the canyons and desert habitat in and around Dominquez and Escalante canyons west of Delta and has a 2012 post-hunt estimate of 160. The Uncompahgre population is in proximity to proposed crossing activity.

Disease Transmission

Research has been rapidly evolving in regard to disease transmission between wild and domestic sheep. Most recently, research conducted out of Washington State documented transmission in a field setting[8]. Working groups have formed periodically at national and regional levels to evaluate risks and develop management suggestions, often incorporating both scientific experts as well as stakeholders affected by scientific conclusions and management recommendations. Because the operating environment and exact mechanisms related to disease transmission in the field can be so complex and can require detailed laboratory testing to prove definitively, most of these working groups have put substantial effort into deliberately and carefully characterizing management conclusions related to disease, as well as the scientific research on which they are based. As an example, the U.S. Forest Service, the BLM Colorado State Office, Colorado Department of Agriculture, Colorado Woolgrowers, and the Colorado Division of Wildlife signed a memorandum of understanding in 2009 that included the following conclusions relating to disease[9]:

- Contact between bighorn sheep and domestic sheep increases the probability of respiratory disease outbreaks in bighorn sheep.
- Not all disease outbreaks and reduced recruitment in bighorn sheep can be attributed to contact with domestic sheep.

The Wild Sheep Working Group of the Western Association of Fish and Wildlife Agencies recently updated a series of management recommendations designed to reduce the probability of interaction and disease transmission between wild and domestic sheep[10]. These recommendations include proactive mitigation measures for land management agencies and domestic sheep grazing operators.

---

[8] Lawrence, P.K. et al. 2010.Transmission of Mannheimia Haemolytica from domestic sheep (*Ovis aries*) to bighorn sheep (*Ovis canadensis*): unequivocal demonstration with green fluorescent protein-tagged organisms. Journal of Wildlife Diseases 46(3), 706–717.

[9] U. S. Forest Service. 2009. Memorandum of Understanding for Management of Domestic Sheep and Bighorn Sheep. Forest Service Agreement No. 09–Mu-I1020000–006; Bureau of Land Management Agreement No. BLM-MOU-CO-482. Denver, CO: USDA Forest Service Rocky Mountain Region, Bureau of Land Management Colorado State Office, Colorado Division of Wildlife, Colorado Department of Agriculture, & Colorado Woolgrowers Association.

[10] Wild Sheep Working Group. 2012. Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitat. Cheyenne, WY: Western Association of Fish and Wildlife Agencies.

The identification of organisms that cause pneumonia in bighorn sheep following contact with domestic sheep remains unresolved,[11] possibly due to disease complexity (multiple pathogens) and the limitations of research tools. There is literature documenting pneumonia outbreaks and die-offs in bighorn sheep populations with no known recent prior contact with domestic sheep.[12] However, documented pneumonia epizootics are absent in the large expanse of wild sheep range in Canada and Alaska where there have been almost no opportunity for direct or indirect contact with domestic sheep, suggesting that interaction between domestic and wild sheep is a causal factor in the introduction of these pathogens into wild sheep herds[13] [14] [15] [16].

When domestic and wild sheep or goats have opportunities to intermingle (depending on proximity of domestic to wild populations), and when population trends indicate that disease may be a factor in a population, the risk of disease transmission becomes a management concern. Domestic sheep are present in the project area in proximity to both Rocky Mountain and desert bighorn, making the risk of disease transmission to wild sheep a management concern.

Much of the disease concern for bighorn sheep has focused on domestic sheep and goats. However, a recent study has documented that there have been cases of contact with domestic cattle that have resulted in evidence of *Pasteurellaceae* and pneumonia, but these occurrences appear to be rare[17].

Routes that do not pass directly through desert bighorn sheep range may still have impacts to populations due to potential disease transmission from domestic sheep. A risk assessment was conducted for livestock allotments to determine the likelihood of interaction between bighorn sheep and domestic sheep on all allotments within the project area, to guide livestock management. Design features are included to address concerns with disease transmission from domestic sheep to wild sheep (See Design Features Sheep 1 and Sheep 2.)

Desert Shrubland species

White-tailed prairie dog habitat is described as level to gently sloping grasslands and semi-desert grasslands from 5,000' – 10,000' in elevation. The project area contains both a CPW white-tailed prairie dog management emphasis area and habitat. Given the great fluctuation in prairie

---

[11] Wehausen, J.D., Kelley, S.T., & Ramey II, R.R. 2011. Domestic sheep, bighorn sheep, and respiratory disease: a review of the experimental evidence. California Fish and Game 97(1-Winter):7–24.

[12] Goodson, N.J. 1982. Effects of domestic sheep grazing on bighorn sheep populations: a review. In: Northern Wild Sheep and Goat Council (formerly Northern Wild Sheep Council), Proceedings of the Biennial Symposium, March 17–19, 1982. Fort Collins, CO. Cody, WY: Northern Wild Sheep and Goat Council, c/o Wyoming Game and Fish Department. Available online: http://www.nwsgc.org/proceedings.html.

[13] Hoefs, M. & Cowan, I. 1979. Ecological investigation of a population of Dall Sheep. Syesis 12(1):1–81.

[14] Hoefs, M. & Bayer, D. 1983. Demographic characteristics of an unhunted Dall Sheep (*Ovis dalli dalli*) population in southwest Yukon, Canada. Canadian Journal of Zoology 61:1346–1357.

[15] Monello, R.J., Murray, D.L., & Cassirer, E.F. 2001. Ecological correlates of pneumonia epizootics in bighorn sheep herds. Canadian Journal of Zoology 79(8):1423–1432.

[16] Jenkins, E.J. et al. 2007. Protostrongylid parasites and pneumonia in captive and wild Dall sheep (*Ovis dalli*). Journal of Wildlife Diseases 43:189–205.

[17] Drew, M.L. et al. 2014. Health Status and Microbial (Pasteurellaceae) Flora of Free-Ranging Bighorn Sheep Following Contact with Domestic Ruminants. Wildlife Society Bulletin 38(2): 332-340.

dog populations and dog town activity, spatial data for active dog towns may not be accurate, however CPW mapped range for the species may be considered potential habitat and likely locations for active dog towns.

25% of all crossing routes (9) and 13% (1) of all overnight locations for the proposed action include the CPW white-tailed prairie dog management emphasis area. Also, 58% (21) of routes and 50% (4) of overnight locations overlap with white-tailed prairie dog range.

Burrowing owl habitat is described as level to gently sloping grasslands and semi-desert grasslands. They are highly associated with prairie dog colonies for shelter and food. There are no known burrowing owl nest locations in proximity to crossing routes or overnight locations. However, potential habitat occurs in conjunction with prairie dog habitat.

The kit fox is listed as endangered in Colorado, and is considered one of the state's most vulnerable animals with only about 100 in the state. Recent surveys by CPW within the project area have detected no kit fox, and they may be extirpated from the UFO. Kit foxes occupy sparsely-covered, semi-desert shrublands of saltbrush, shadscale and greasewood. They spend most of their days in dens that are scattered around the landscape and which are very important for raising young and avoiding predators, such as coyote. Kit foxes generally live in small groups, digging clusters of dens with multiple entrances. They are often in association with prairie dog towns.

Sensitive Bat Species
BLM sensitive bat species that may occur within the project area include big free-tailed bat, spotted bat, Townsend's big-eared bat, and fringed myotis. All four of these species utilize various vegetation types for foraging for insects at night, and roost in rock crevices, caves, mines, buildings, and trees. The fringed myotis and Townsend's big-eared bat are capable of slow, highly maneuverable flight and pick insect prey off the surfaces of vegetation. The remaining species tend to forage in open areas for insects. The big free-tailed bat migrates south in the winter. The remaining species hibernate in caves, mines and buildings over the winter months.

The planning area is within the known range of these species, and suitable habitat is present. Site-specific surveys have not been conducted to determine the presence of roost sites for these species, but likely roosting habitat would not be in very close proximity to crossing activities. They may forage at night throughout much of the project area.

Sensitive Raptors
BLM sensitive raptors that may occur within the project area include American peregrine falcon, Ferruginous hawk, bald eagle, and burrowing owl (discussed above). The planning area is within the known range of peregrine falcon and ferruginous hawk, and suitable habitat is present. Peregrine falcons are known to breed and forage in the general area of the project, but there are no known nests or roosts within proximity to crossing activities. They nest in very tall cliffs. Ferrugious hawks are thought to only be a winter resident of the area, and may forage throughout much of the project area during the winter. Site-specific surveys for peregrine falcon or ferruginous hawk have not been conducted to determine the presence of nest or roost sites.

The bald eagle was removed from the Colorado list of threatened and endangered species in 2009, but continues as a BLM Sensitive Species. There is one known nest site (2 routes) and one roost site (1 route) associated with routes within the project area. Additionally, 5 routes pass through CPW mapped winter concentration habitat, and 9 routes pass through CPW mapped winter foraging habitat. From early December through early April, wintering bald eagles forage throughout the project area.

Sensitive Birds
BLM sensitive bird species that may occur within the project area include Brewer's sparrow.

The Brewer's sparrow is a sagebrush obligate species. Habitat characteristics correlated with dense populations include a dominance of stands of moderate-density big sagebrush of mid-height, with high forb cover, low grass cover, and some horizontal diversity. The project area is within the known range of this species, and suitable habitat is present. Site-specific surveys have not been conducted to determine the presence of this species within the planning area. There are no known nests of Brewer's sparrow within the project area.

Potential habitat exists in conjunction with 15 routes, and none of the overnight locations.

Sensitive Reptiles
BLM sensitive reptiles that may occur within the project area include midget faded rattlesnake and milksnake.

The midget-faded rattlesnake is one of the smallest rattlesnakes in the Colorado Plateau region of the United States. They are known to occur in San Miguel, Delta and Montrose Counties. Midget-faded rattlesnakes prefer rocky outcrops in areas dominated by sage, but will also utilize riparian, salt shrub, mountain shrub, and pinyon-juniper habitats. The rock outcrops are focal points in their habitat that provide cover and hibernacula. Suitable outcrops typically provide several den sites. Suitable habitat is present within the planning area. Midget-faded rattlesnakes may occur within the planning area but site specific surveys have not been completed to determine species presence.

The milk snake occurs in a wide variety of habitats in Colorado including shrubby hillsides, canyons, pinyon-juniper woodland, and open stands of ponderosa pine. They hibernate in rock crevices, under logs or other debris. Suitable habitat is present within the planning area. They are considered to be unusual but locally common in San Miguel and Montrose counties. Site-specific surveys have not been conducted to determine the presence of this species in the planning area.

Environmental Consequences:

Proposed Action – Refer to the Migratory Birds, Terrestrial and Aquatic Wildlife sections for a general discussion of crossing impacts on migratory birds/wildlife and habitat.

General Consequences

The most likely impact of the proposed action is minor forage utilization along the crossing corridor. Livestock being moved tend to eat small amounts of forage as they walk (see Range Management Section). The level of impact to sensitive species will change depending on the route surface, the width of the corridor and whether individuals of the species are present within or immediately adjacent to the crossing corridor. The highest likelihood of impacts (direct and indirect) will be on crossing routes along non-road trails and drainages where livestock have the ability to spread out. However this impact is reduced due to the fact that livestock will be kept in constant motion and not allowed to stop and freely graze (see Design Features).

For those routes that are along drainages or non-road 2-track 4WD, impacts could be both direct and indirect. Because these corridors are more generally in a "wild" condition, and are generally not used on a frequent basis, these corridors are the most likely to have species present. Crossing activities on these routes may have direct impacts to species from trampling and/or take of individuals or nests/burrows. Crossing activities may have indirect impacts from noise and activity associated with movement of livestock (e.g. noise and contact with route surface by livestock, humans, dogs and vehicles), as well as the limited incidental grazing by livestock during travel. These indirect impacts could cause short-term modification of habitat and/or stress to individuals within or adjacent to the travel corridor. If crossing activities take place during the breeding season of some species, even short-term indirect impacts could cause individuals to abandon nests, burrows, or young during a critical period, which could result in loses in reproductive effort.

For those routes that are along BLM managed roads, direct impacts to species would be reduced due to the route surface. Because these corridors are more established routes, generally have more regular use, and have a more developed surface (gravel, bare dirt), these corridors are less likely to have species present within the route surface. Only within the remaining shoulder portions of the crossing route would there be found potential habitat for sensitive species. Along the shoulder portions of these routes, direct impacts (as described above) could occur to sensitive species. Crossing activities within described routes will have similar indirect impacts as described above for drainages or non-road 2-track 4WD routes. Where fences run adjacent to roadways, as is the case with many State and County roads, direct impacts of crossing activities will be further reduced due to the fact that livestock are confined to the roadway and the right-of-way, and may not tread at all on the Public Land that is directly adjacent.

Most overnight locations contain no holding facilities such as corrals. Livestock would be permitted to freely graze and water at these locations. These activities at these locations may have indirect impacts to sensitive species as described above for trailing. Where overnighting occurs where there are concerns for bighorn sheep/domestic sheep interaction (Overnight locations 13, 14, 19, 20 and 21), design features would reduce the probability of interaction with bighorn sheep.

Design features listed in the proposed action of this document will reduce impacts from activities associated with livestock crossing, and minimize incidental grazing impacts on sensitive species. Generally, individuals of sensitive species may be affected, but livestock crossing activities are not expected to have a measurable impact on populations or species viability. Crossing activities have been ongoing for many years; overall, conditions are expected to improve slightly because

of the proposed addition of permit terms and conditions.

Consequences to BLM Sensitive Species
Thirteen BLM sensitive terrestrial wildlife species or habitats occur within the project area (Table 5). There would be no effect to sensitive bat species, peregrine falcon and Ferruginous hawks. Because crossing activities generally occur during daylight hours in bat foraging habitat, effects to bats should not be disruptive to their life activities and would be undetectable and immeasurable. Peregrine falcon and Ferruginous hawks may be temporarily displaced from crossing activities, but would be generally undetectable and immeasurable.

For the remaining BLM sensitive terrestrial wildlife species, the proposed action would have incidental direct and indirect impacts as described in General Consequences. If crossing activities occurring during breeding seasons for these species, short-term impacts could result to reproductive success. Based on the analysis above and the design features provided, the proposed crossing activities may affect, but would not be likely to result in a trend toward federal listing for desert bighorn, white-tailed prairie dog, burrowing owl, bald eagle, Brewer's sparrow, midget faded rattlesnake and milk snake. Overall, the proposed changes in management of crossing activities should result in improved conditions for special status and rare species.

Cumulative Impacts – The proposed livestock crossing routes generally occur within existing allotments where cattle currently graze and are herded on an annual basis. These allotments contain water developments and fences that provide the infrastructure necessary for livestock management. Cattle that graze on these allotments are routinely herded in a manner much like the crossing that is proposed, as they are moved between pastures and to various locations within an allotment throughout the grazing season.

In addition to the impacts described for each of the alternatives, other reasonably foreseeable actions that could affect TES species and habitat in the foreseeable future on private and public lands include livestock grazing, big game management by Colorado Parks and Wildlife, habitat improvement and fuels management projects, county road maintenance and upgrades, utility corridor maintenance and upgrades, new road rights-of-ways, oil and natural gas exploration and/or development, and continued residential growth and development of private lands adjacent to the project area. Cumulative impacts to TES species from these activities would be long-term and ongoing within the region including the planning area.

No Action Alternative – The No Action Alternative would have no effect on federally protected and BLM sensitive species. Under the no-action alternative livestock crossing through BLM managed lands would not be authorized. Direct and indirect affects described under the proposed alternative would not take place on BLM lands if crossing activities did not occur.

Operators with a recurring need to move livestock between allotments would have to trail livestock along public rights-of ways where no Public Land is intermingled, including county, state, and federal roadways, or transport animals via truck. Additionally overnight stops would be limited to private land. These activities, since not authorized by BLM, would not have the design features included in the proposed action, and impacts on non-BLM lands would be similar but greater than that described for the proposed action.

Finding on the Public Land Health Standard for Threatened & Endangered species:
The project area is part of the Gunnison Gorge, North Fork, and Roubideau Land Health Assessments (LHAs)[18]. Healthy plant communities typically translate to healthy habitats for wildlife and plants, particularly for wide-ranging or generalist species. However, because endemic and special status wildlife are typically restricted in their range and have more specific habitat requirements, those portions or samples of the polygon containing habitat for these species were evaluated independently. Across the five LHAs, a majority of the area was meeting Land Health Standards for Standard 3 (native animal communities) and Standard 4 (Special Status Species), but approximately one-third of all LHAs were meeting with problems for Standard 3. Causal and contributing factors to "not meeting" or "meeting with problems" for these LHAs included both current and historic livestock grazing, noxious or invasive weeds, BLM roads and Road ROWs. Additionally, corrals, exclosures and stock ponds were listed as associated with impacts to land health indicators. Since proposed crossing routes and overnight locations are within areas that are already used for livestock grazing and existing corrals/holding traps, these activities should not contribute additionally to decline in Land Health ratings.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment:
The Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1534) mandates the protection of species listed as threatened or endangered of extinction and the habitats on which they depend. Section 7 of the ESA clarifies the responsibility of federal agencies to utilize their authorities to carry out programs for the conservation of listed species. In addition, federal agencies must consult with the U.S. Fish and Wildlife Service (Service) to ensure that any action authorized, funded or carried out by the agency is "...not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species...". The Uncompahgre Field Office (UFO) utilizes the U.S. Fish and Wildlife Service *Information, Planning, and Conservation* System (IPaC) to generate the most current species list to analyze the effects of a Proposed Action on threatened, endangered and candidate species and designated critical habitat for these species. Additionally, the BLM has a state-wide list of Sensitive Species for management consideration. In accordance with BLM Manual 6840, the goal of management of these species is to prevent a trend toward federal listing or loss of viability.

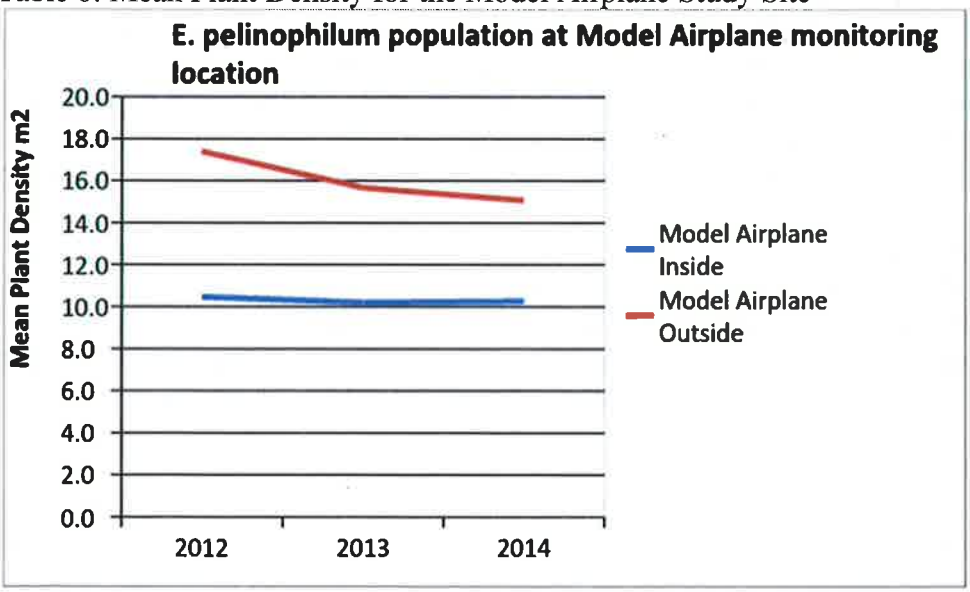
Federally Listed Species
According to IPaC (Consultation Tracking Number 06E24100-2014-SLI-0168), the project area potentially contains twelve species protected under the Endangered Species Act (ESA). Upon further investigation and review, only two plant species are present within the project area: Clay-loving wild buckwheat (endangered) and Colorado hookless cactus (threatened). The two ESA protected plant species are known to occur within the project area based on habitat and current range/location information.

[18] Available: http://www.blm.gov/co/st/en/fo/ufo/land_health.html

Clay-loving wild buckwheat occurs in mat saltbush or black sagebrush dwarf shrublands. *Atriplex corrugata* and *Artemisia nova* are the dominant species associates, with other common species including *Xylorhiza venusta, Atriplex confertifolia, Atriplex gardneri*, and *Picrothamnus desertorum*. Plants are typically found in the basin portions of the adobe badland system of draws and ridges, at elevations ranging from 5,180 to 6,350 feet (1,579 to 1,935 meters) above mean sea level (FWS 2009b). At a finer scale, plants are often concentrated on the north or east face of small hummocks where snow drifts and moisture remain later into the spring than on surrounding flat or exposed areas.

Specifically route 161 directly impacts Clay-loving wild buckwheat. Route 161 crossing impacts were deemed to be too detrimental for the species by USFWS; as a result the BLM, in cooperation with the Montrose Model Airplane Club and USFWS, constructed three exclosures to reduce livestock and OHV impacts. The impacts to buckwheat from livestock crossing have largely been alleviated by the development of the exclosures in this area. There are two populations that are not fenced by this project, with long term trend studies in place designed to ascertain what the impacts of livestock activity are at this location. With three years of monitoring data for this site, initial trend suggests that trailing activity does contribute to the suppression of mean plant density for clay-loving wild buckwheat. Table 6 depicts mean plant density at the Model Airplane site where mean plant density has declined by 13% since the exclosures were built in 2012, while mean plant density within the exclosures has remained more constant with only a 1.9% decrease in mean plant density. Additional monitoring is needed to fully flush out this trend data relative to other environmental stressors.

Table 6: Mean Plant Density for the Model Airplane Study Site



Colorado hookless cactus grows primarily in the salt desert shrub community on alluvial terraces associated with the Gunnison and Colorado Rivers. Soils are commonly derived from Mancos shale often with a thin over layer of alluvium, and range from fine silty clay to coarse gravel with volcanic cobbles and boulders scattered on the surface. The dominant co-occurring plant species include *Atriplex confertifolia*, *Artemisia nova*, *Opuntia* spp., *Echinocereus triglochidiatus*, *Pleuraphis jamesii*, and *Acnatherum hymenoides*. Populations also occur in big sagebrush and

the transition zone with pinyon-juniper woodland. Within these communities, Colorado hookless cactus is often found under small nurse shrubs, especially *Atriplex confertifolia*. In many Colorado hookless cactus populations, exotics occur, especially Bromus tectorum and/or *Halogeton glomeratus*, and *Acroptilon repens* along drainages. Typical elevations for the species range from 4,593 to 6,562 feet (1,400 to 2000 meters) above mean sea level (Heiland Porter 2004). According to the North Delta LHA report, BLM considers the Mancos shale communities that the cactus occurs in to have little resilience to disturbance due to soil chemistry and structure and the small amount of available moisture (BLM 2002).

Routes 176, 177, 179, 180, 181, 404, and 556 directly impact Colorado hookless cactus. On routes 179, 180, and 181, the analysis buffer intersects 3 populations of cactus with a total of 51 individuals observed since 2010. Nearly all of these routes occur within suitable habitat for the cactus. Only the portions of route 176 paralleling South River Road and route 177 paralleling Pleasure Park Road have had a through survey completed. There are likely numerous other populations of cacti present within the analysis area for crossing routes 176, 177, 179, 180, and 181. Route 404 bisects two large populations of cacti near the intersection with routes 500 and 496. These populations are large, containing several hundred individuals, and the cacti tend to be perched on the benches above the existing roads used for crossing activity. Route 556 intersects a population of approximately 35 individual cacti on the west side of the Tri-State 345 kV powerline and TransCo pipeline. Disturbance to these plants does not appear to be influenced by livestock crossing events, as the crossing use is concentrated between the identified road and the TransCo pipeline disturbance corridor.

BLM Sensitive Plant Species

In accordance with BLM Manual 6840, the goal of management is to prevent a trend toward federal listing or loss of viability for sensitive species. Several sensitive species are known or have the potential to occur in the project area (BLM 2014). BLM sensitive species brought forth for analysis include Montrose bladderpod, Colorado (Adobe) desert parsley, and Grand Junction milkvetch. More detail can be found in the sensitive species clearance report (6840 file).

Montrose bladderpod

Sandy-gravel soil mostly of sandstone fragments over Mancos Shale (heavy clays) mainly in pinyon-juniper woodlands or in the ecotone between it and salt desert scrub; also in sandy soils derived from Jurassic sandstones and in sagebrush steppe communities; elevation 5800' – 7500' within the Uncompahgre River valley. Route 470 impacts this species.

Colorado (Adobe) desert parsley

Adobe hills and plains on rocky soils derived from Mancos Formation shale; shrub communities dominated by sagebrush, shadscale, greasewood, or scrub oak; elevation 5500' – 7000'. Route 177 impacts this species.

Grand Junction milkvetch

Sparsely vegetated habitats in pinyon-juniper and sagebrush communities, often within Chinle and Morrison Formation and selenium-bearing soils, only known to occur on the eastern base of the Uncompahgre Plateau; elevation 4800' – 6200'. Route 419 impacts this species.

Environmental Consequences:
Proposed Action –

Federally Listed Species

Trampling can affect plants through crushing and is thought to bury seeds of one rare annual so deeply that they can no longer germinate (Meyer et al. 2005, 2006). Trampling may also affect plants and their communities indirectly by disturbing soils. Soil compaction and disturbance to physical and biological soil crusts are other potential effects. Soil compaction has been shown to inhibit root growth (Ouren et al. 2007; Potter et al. 1985) and alter hydrologic processes important to plants (Fleischner 1994; Jones 2000). Disturbance to biological soil crusts can increase wind and water erosion of soils (Belnap 2001; Belnap et al. 2009), with resulting loss of nutrients (Belnap 2002; Neff et al. 2005) and decrease in water infiltration (Belnap 1995), both of which are likely to have disproportionate effects in arid ecosystems. These effects can alter the function and utility of habitat for rare plant species, especially edaphic endemic species.

Other factors will also determine the level of effects due to trampling. When wet, soils with high clay content are susceptible to compaction and damage. Therefore, the timing of trampling (i.e., spring) is an important factor. Effects from trampling will be greatest in areas where livestock concentrate, such as along trails, at watering holes and troughs, and overnight locations. Sheep congregate in bedding grounds and during herding or trailing. This behavior results in distinctive swaths of heavily trampled soil and vegetation.

Direct effects to Clay-loving wild buckwheat will occur through browsing and trampling, especially during concentrated use such as trailing and bedding. Although browsing and trampling by BLM-authorized livestock have been observed more frequently in clay-loving wild buckwheat compared to Colorado hookless cactus, there are no data to indicate how commonly these activities affect individuals or whether they are responsible for landscape-scale changes in abundance or distribution of the species.

Indirect effects to clay-loving wild buckwheat from grazing program-related changes in habitat may occur. Concentrated use is likely to degrade clay-loving wild buckwheat habitat through soil compaction and surface modification. Trampling and bedding will break the surface crust common on Mancos shale soils and expose the subsurface to wind and water erosion, with ensuing soil and nutrient loss and changes in water infiltration rates (Belnap 1995; Jones 2000). In Mancos shale communities, soil compaction may stunt plant growth by restricting gas exchange between the roots and soil (Potter et al. 1985). The effects of sheep crossing on germinants and seedlings are more difficult to assess. Given some evidence of episodic recruitment events (DBG 2010a; BLM 2011), heavy trampling during a recruitment flush could have effects on population growth that would last for years. A decline in growth rate may reduce the resiliency of small occurrences to other forms of disturbance. Spring snowmelt makes it likely that soils will be wet and more vulnerable to compaction during germination. Compaction may indirectly affect germination or emergence rates. Without more study, these potential effects are difficult to evaluate.

Physical damage to Colorado hookless cactus individuals from moderate to heavy trampling by livestock have been observed (BLM 2002, 2009b, 2010a; FWS 2010). Even when direct mortality does not occur, trampling damage may make individual plants more susceptible to

desiccation or herbivory from insects or small mammals. No evidence of browsing by livestock on this species has been reported.

Direct effects to plants will occur through trampling, especially during concentrated use from, watering, trailing, and bedding. Although trampling and uprooting of Colorado hookless cactus by livestock has been observed, there are no data to indicate that it occurs commonly or has been responsible for detectable landscape-scale changes in abundance or distribution of the species. Not all trampled plants will die. Based on field observations, plants can survive some damage and partial uprooting, and non-lethal damage may be compensated for through budding. However, if damaged, plants direct resources towards tissue repair and away from reproduction, and if damage makes them vulnerable to desiccation and/or disease, they may have reduced reproductive output for some length of time and increased mortality compared to undamaged plants. Because not all of the crossing corridors have had thorough survey work completed impacts can be expected to occur to undocumented populations of the cactus. Routes lacking survey in suitable habitat include 161, 407, 418, 420, 422, 500, and 555; given the generalist nature of this species, occurrences along these routes is highly likely. Impacts to these occurrences, should they be present, would be similar to those described above.

Design features 1, 2, and 3 under Terms and Conditions for Federally Protected and BLM Sensitive Plants place limits on concentrated use by livestock within occupied habitat for Clay-loving wild buckwheat & Colorado hookless cactus, restrict use of motorized vehicles to designated routes during crossing activities. The implementation of these design features will minimize direct and indirect effects to clay-loving wild buckwheat and Colorado hookless cactus from BLM-authorized crossing operations. However, effects to the species and their habitat from the crossing activities are unavoidable. Effects are expected to be measurable in localized areas including routes 161 for Clay-loving wild buckwheat and 176 and South River Road, and 181 for Colorado Hookless cactus where concentrated livestock use cannot be fully avoided. Impacts will be less detectable in areas where plants are not known to occur within the 300 foot analysis corridor or the plants occur on elevated terraces or in drainage bottoms such as route 404 or outside of where crossing activity is concentrated such as route 556.

The BLM completed a programmatic Biological Assessment for the livestock grazing program which analyzed the effects of livestock management on BLM managed public lands (including livestock crossing) on the Colorado Hookless cactus, Clay-loving wild buckwheat, and DeBeque phacelia. BLM concluded that the grazing program on BLM managed public lands "**may affect and is likely to adversely affect**" the three species. On November 15, 2012 the USFWS issued a Biological Opinion (BO) (ES/GJ-6-C0-12-F-006) that the livestock grazing program, including trailing, is not likely to jeopardize the continued existence of the Colorado hookless cactus, clay-loving wild buckwheat, or DeBeque phacelia. Further, the Service found that the proposed action will not result in the destruction or adverse modification of critical habitat for clay-loving wild buckwheat or DeBeque phacelia.

The overnight locations all occur within previously disturbed areas from both livestock use areas or other surface disturbing activities and thus do not support federally protected or BLM sensitive species.

BLM Sensitive Plant Species

Montrose bladderpod

Route 470 bisects a small population of this species near the powerline corridor. The impacts to this species are expected to largely be indirect and are similar to those described for T&E plant species above. The species blooms early in the spring and is typically in fruit when livestock are crossing public lands on their way up to summer pastures; often desiccated and absent in the fall when crossing activity occurs to bring livestock back down to private lands in the valley. There has not be a substantial amount of survey conducted for this species, thus many of the routes analyzed that occur on the west side of the analysis area in piñon juniper woodlands could contain undocumented populations of this species and impacts are the same as discussed above.

Based on the analysis above and the design features provided in the proposed action, the proposed crossing activities may affect, but would not be likely to result in a trend toward federal listing for Montrose bladderpod.

Colorado (Adobe) desert parsley

There are several large and densely populated occurrences of this species along much of routes 177 and 179. This species is a late winter early spring species and sheep do commonly trample and graze this species along the crossing routes. Indirect impacts are similar to those described in the T&E discussion above. While there are documented impacts, the sheer number of individuals present in these populations suggests that current impacts are not manifested at the population level. This species is very dependent upon seasonal moisture, and on good moisture years the species is very abundant, in known populations, while on dry years the species may be nearly absent from the landscape.

Based on the analysis above and the design features provided in the proposed action, the proposed crossing activities may affect, but would not be likely to result in a trend toward federal listing for Colorado (Adobe) desert parsley.

Grand Junction milkvetch

This species is most common in the project area just outside the riparian zone or near seeps and seasonally moist areas. The only route that is known to have this species present is route 419 along Roubideau Creek just above the confluence with Criswell Creek. This species is not palatable and is poisonous to livestock thus no grazing is anticipated. The species does get trampled in this location, particularly small individual plants. Generally livestock appear to avoid the plants, perhaps do to its poisonous nature. This population remains viable with reproduction and recruitment observed as recently as 2013. Indirect effects similar to those described in the T&E plants section have and do occur as a result of crossing activity in this area.

Based on the analysis above and the design features provided in the proposed action, the proposed crossing activities may affect, but would not be likely to result in a trend toward federal listing for Grand Junction milkvetch.

Cumulative Impacts –

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this EA. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. In the action area, BLM lands occur in a mixture of private, local, State, and other Federal lands, with private lands dominating. No tribal lands occur inside the action area.

Activities that occur on non-BLM lands within the action area include agriculture and ranching; residential development; oil, gas, and utility line development; road development; and recreation, including hunting, fishing, ORV use, hiking, and mountain biking. The human population in the area has grown tremendously since 1990. This growth is likely to continue at near current rates for the foreseeable future, which will result in increased pressure from development and recreation on private, local, and State lands.

The Grand and Uncompahgre Valleys support a major agricultural industry and growing residential development. These activities will continue to affect the three species through direct loss of plants and habitat, and through habitat modification. New construction, development and maintenance of irrigation systems, use of herbicides, and increased pressure from recreation associated with residential development may affect the species and their critical habitat. Effects are likely to be greater for clay-loving wild buckwheat, which occurs on the Uncompahgre Valley floor within and around the communities of Delta and Montrose. Between 1990 and 2009, these cities grew approximately 144 and 108 percent, respectively (U.S. Census Bureau 2012). Development has been particularly rapid in this region and is expected to expand as area cities continue growing. We estimate that about 40 percent of clay-loving wild buckwheat habitat has already been impacted by development or agriculture (FWS 2009b). As development continues within the action area, recreational activities (e.g., OHVs) are likely to increase on private lands.

Future livestock grazing on private lands will affect the three species. Many of the BLM allotments in the action area include both BLM and private surface. The BLM does not have discretion over grazing or trailing on private land, and this use will continue to occur regardless of BLM's grazing program. Unpermitted trailing through BLM lands is likely occurring along State and county road ROWs. Effects to the three species and their critical habitat from grazing and related activities on private, local, or State lands or ROW would be similar to those described for the proposed action.

Energy development is expected to continue in Colorado hookless cactus and DeBeque phacelia habitat. Although the development of private mineral rights is regulated by the Colorado Oil and Gas Conservation Commission, the Commission has no leverage when it comes to conservation of federally listed plants. Effects to clay-loving wild buckwheat are expected to increase due to energy transmission projects. For instance, the projected extension of the East Montrose Transmission Improvement Line south from the planned Miguel Road Substation may be routed through or near clay-loving wild buckwheat populations on private land. Effects from oil and gas development and utility line projects to the three focal species and their habitats on non-federal lands would be similar to those described for the proposed action.

No Action Alternative –
Under the no-action alternative livestock crossing through BLM managed lands would not be authorized. Direct and indirect affects described under the proposed alternative would not take place on BLM lands if crossing activities did not occur.

Operators with a recurring need to move livestock between allotments would have to trail livestock along public rights-of ways where no Public Land is intermingled, including county, state, and federal roadways, or to transport animals via truck. Additionally overnight stops would be limited to private land. These activities, since not authorized by BLM, would not have the design features included in the proposed action, and impacts on non-BLM lands would be similar but greater than that described for the proposed action.

Finding on the Public Land Health Standard for Threatened & Endangered species:
The lands associated with routes 161, 173, 177, 179, 182, and 185 either do not meet or meet with problems for the public land health standards. Many of the causative factors include past and/or current livestock grazing, recreation, and drought. Much of the fine scale issues are the presence of invasive annual species that competitively exclude native species including cactus and buckwheat, low shrub cover, and poor shrub vigor. Since the cactus and buckwheat are dependent upon healthy native plant communities for persistence and maintenance of the populations, these same factors have contributed for the not meeting or meeting with problems determinations for TE&S species in these areas. The remaining routes that impact BLM sensitive species generally meet or meet with problems for the public land health standards.

THREATENED, ENDANGERED, AND SENSITIVE AQUATIC WILDLIFE SPECIES (includes a finding on Standard 4) and WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment:
Sensitive Aquatic Species
Trailing routes 419, 554, and 580 all intersect near the channel and flood plain of Roubideau Creek, which is inhabited by Roundtail chub, Bluehead sucker, Flannelmouth sucker. These species were all observed in Roubideau Creek when last sampled on May 7, 2013, utilizing a two-pass removal estimate via a 4 electrode bank shocking unit to document native fish use and obtain a population estimate. Roubideau Creek was running high at the time of sampling and was likely close to the spring peak. Swift, deep water made sampling difficult and a short reach was sampled. All 3 target species were collected although only one small roundtail chub was collected during this effort as the site was dominated by flannelmouth suckers and bluehead suckers. It is apparent that use of Roubideau Creek by native fish increases and peaks during the spring when these fish move in from the Gunnison River to spawn. Later in the summer, Roubideau Creek serves as nursery habitat for young Roundtail chub, Bluehead sucker, Flannelmouth sucker (BLM 2013)

Northern leopard frogs have been observed in Roubideau Creek on several occasions during fish sampling efforts. Canyon treefrog have not been observed but the habitat and aquatic system is appropriate for the species to be present within Roubideau Cr.

Aquatic Species
Other aquatic species known to be present in Roubideau Creek include Brown Trout, Rainbow Trout, Longnose Sucker, Speckled Dace, White Sucker, Green Sunfish and western and woodhouse's toads as well as numerous aquatic invertebrates that most fish and amphibian species depend upon for food sources.

Environmental Consequences:

Proposed Action –

Environmental consequences to Roubideau Creek occupied by Roundtail chub, Bluehead sucker, and Flannelmouth sucker would be similar in nature to what has been analyzed in the Floodplains, Wetlands and Riparian sections. The crossing in spring likely coincides with or occurs shortly after the spawning period for the three sensitive fish and leopard and Canyon Tree frogs. Livestock impacts would be localized and measurable at the confluence of these routes due to the proximity of the trails to the stream and the potential for large numbers of cattle spending substantial periods of time in the stream channel. Such activity disrupts spawning activity and crushes egg deposits as well as creates sedimentation of spawning gravels which can inhibit egg development. Similar impacts likely occur for canyon tree frog and northern leopard frog. Such impacts may be more pronounced at stream crossings as amphibians tend to attach their egg masses to vegetation adjacent to the stream at the water line in eddies or pools with slower moving water. Fall trailing activity is likely a less detrimental impact to the five species discussed above as the three fish species adults move out of the creek in to the Gunnison River after spawning. The fry are capable of fleeing the disturbance associated with livestock crossing in the stream and the three species can and do tolerate turbid conditions after hatching. The two frog species are also capable of fleeing crossing activity and may initiate hibernation depending upon timing of crossing activity in the fall.

The impacts to none sensitive species present in Roubideau Creek would be similar in nature to those described for sensitive species. Brown trout may be more greatly affected by fall trailing activity as they are a fall spawning species however the impacts to spawning behavior and eggs would be similar to that described above.

Cumulative Impacts –

The proposed livestock crossing routes generally occur within existing allotments where cattle currently graze and are herded on an annual basis. These allotments contain water developments and fences that provide the infrastructure necessary for livestock management. Cattle that graze on these allotments are routinely herded in a manner much like the crossing that is proposed, as they are moved between pastures and to various locations within an allotment throughout the grazing season.

In addition to the impacts described for each of the alternatives, other reasonably foreseeable actions that could affect aquatic species and habitat in the foreseeable future on private and public lands include livestock grazing, big game management by Colorado Parks and Wildlife, habitat improvement and fuels management projects, county road maintenance and upgrades, utility corridor maintenance and upgrades, new road rights-of-ways, oil and natural gas exploration and/or development, and continued residential growth and development of private

lands in and around the towns of Delta, Montrose, Olathe, and Hotchkiss. Cumulative impacts to aquatic species from these activities would be long-term and ongoing within the region including the planning area.

No Action Alternative –

This alternative would not authorize livestock crossing in Roubideau Creek, therefore the impacts and associated affects described above would not be expected to occur resulting in a no affect determination for these five species.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation; Wildlife, Terrestrial; and Invasive, Non-native Species):

The segment of Roubideau Creek impacted by livestock crossing activity meets Public Land Health Standards 3 and 4 with problems. The problems are associated with a poor depth to width ratio and the presence of weeds such as tamarisk and Russian knapweed which all contribute to diminish stream habitat quality that also inhibits aquatic species productivity. The proposed action like has and will continue to contribute to land health problems observed which will also contribute to diminished habitat quality for aquatic species.

MIGRATORY BIRDS

Plant communities within the analysis area provide habitats for a variety of migratory bird species. The U.S. Fish and Wildlife Service list of Birds of Conservation Concern (BCC) was used to complete this analysis.[19] A spatial analysis was conducted to assess which routes and overnight locations have potential to intersect with migratory bird species.[20] From that analysis, a list of species for impacts analysis is found in Table 7, below.

Table 7 Migratory bird species for consideration in effects analysis.

Common name	Scientific Name	Population Trends[21]
Bald eagle*	*Haliaeetus leucocephalus*	+14.3 (+15.2) +14.3 (+15.2)
Brewer's sparrow*	*Spizella breweri*	-1.7 (-0.1) -2.0 (-1.6)
Burrowing owl*	*Athene cunicularia*	-0.1 (+0.4) -0.9 (-0.6)
Cassin's finch	*Haemorhous cassinii*	-0.6 (+0.3) +0.4 (+2.2)
Chestnut-collared longspur	*Calcarius ornatus*	+0.4 (-3.4)
Ferruginous hawk*	*Buteo regalis*	+2.5 (+4.0) +0.7 (+0.8)

[19] U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>].

[20] BLM. 2015. Wildlife, fish and rare plant report for East Side Livestock Crossing Permit Area, Uncompahgre Field Office. Project File for 2014-0035 EA.

[21] Populations trends based on Patuxent Breeding Bird Survey Results for the Southern Rockies Region and Colorado for 1966-2010 (2000-2010). Accessed 10/30/2012 <http://www.mbr-pwrc.usgs.gov/cgi-bin/atlasa10.pl?S16&2&10>

Golden eagle	*Aquila chrysaetos*	-1.4 (-0.9) -0.2 (+0.8)
Grace's warbler	*Dendroica graciae*	-1.6 (+1.9) +6.1 (+5.2)
Gray vireo	*Vireo vicinior*	+1.7 (+1.4) +0.6 (+1.6)
Juniper titmouse	*Baeolophus griseus*	+0.3 (+1.5) -0.5 (-0.2)
Lewis' woodpecker	*Melanerpes lewis*	-2.0 (-1.4) -0.9 (+0.8)
Peregrine falcon*	*Falco peregrinus*	+1.5 (+6.3) +28.1 (+21.7)
Pinyon jay	*Gymnorhinus cyanocephalus*	-3.6 (-3.3) -3.0 (-3.4)
Prairie falcon	*Falco mexicanus*	+1.7 (+6.3) +3.0 (+2.6)
Veery	*Catharus fuscescens*	-4.9 (-7.7) -5.7 (-5.8)
Willow flycatcher	*Empidonax traillii*	-2.6 (-1.8) -3.1 (-2.8)

*See assessment under Threatened, Endangered and Sensitive species section.

Affected Environment:

Plant communities within the analysis area provide habitats for a variety of migratory bird species. Within the planning area, crossing routes and overnight locations are within habitats for migratory birds. Nesting locations for many of these species are unknown within the planning area and site specific surveys have not been completed to determine presence of these species. The likelihood of species presence within the planning area was determine by assessing BLM survey data, Land Health Assessments and Breeding Bird Atlas data, professional knowledge of BLM biologists and the likelihood of occurrence based on habitat associations. Sixteen of the BCC species are expected in the project area. Of those, 11 show population declines for the Rocky Mountain Region and/or Colorado (Table 7). These include Brewer's sparrow, burrowing owl, Cassin's finch, chestnut-collared longspur, golden eagle, Grace's warbler, juniper titmouse, Lewis' woodpecker, pinyon jay, veery and willow flycatcher.

Migratory birds can be categorized by the vegetation cover, but also by nesting and foraging substrate that they use. Of the migratory bird species that are expected within the planning area, three species nest in grasslands, eight in forests/woodlands, one in riparian, one in sagebrush, and three on cliffs. One species nests in a burrow, two in tree cavities, three on cliffs, three on the ground, three in shrubs and five in trees. Two species are aerial divers, two species are aerial forager, one is flycatching, four are foliage gleaners, four are ground foragers, and three are soarers (Table 8).

Table 8 Nesting and foraging habits of Birds of Conservation Concern for planning area[22] (CLO 2013).

Species	*Nesting Vegetation*	*Nesting*	*Foraging*
Bald eagle*	Forest/Woodland	Tree	Soaring
Brewer's sparrow*	Sagebrush	Ground/shrub	Foliage gleaner
Burrowing owl*	Grassland	Burrow	Aerial dive

[22] CLO. 2013. All About Birds: Bird Guide. Cornell Lab of Ornithology. Available: http://www.allaboutbirds.org/guide. Accessed 10/29/2014

Cassin's finch	Forest/Woodland	Tree	Ground
Chestnut-collared longspur	Grassland	Ground	Ground
Ferruginous hawk* ^	Grassland	Tree	Soaring
Golden eagle	Cliff	Cliff	Soaring
Grace's warbler	Forest/Woodland	Tree	Foliage gleaner
Gray vireo	Forest/Woodland	Shrub	Foliage gleaner
Juniper titmouse	Forest/Woodland	Cavity	Foliage gleaner
Lewis' woodpecker	Forest/Woodland	Cavity	Aerial
Peregrine falcon*	Cliff	Cliff	Aerial dive
Pinyon jay	Forest/Woodland	Tree	Ground
Prairie falcon	Cliff	Cliff	Aerial forager
Veery	Forest/Woodland	Ground	Ground
Willow flycatcher	Riparian	Shrub	Flycatching

* Species covered under Threatened, Endangered and Sensitive Species section.
^ Winter resident only

A wide variety of migratory birds fulfill reproductive functions in the planning area from late May through mid-July. The abundance and composition of nesting birds are anticipated to be appropriate to these vegetation types in their current successional state. There have not been any site-specific surveys conducted within the planning area to determine the presence of migratory bird species. As such, known nesting locations for most species are unknown. However, a review of existing data provides some information on presence, or potential habitat for a few species. The remaining species are likely present, but quantifying potential habitat is more problematic.

Environmental Consequences:

Proposed Action – The proposed action is expected to have similar effects as described in Threatened, Endangered and Sensitive Species section. The level of impact to migratory bird species will change depending on the route surface, the width of the corridor and whether individuals of the species are present within or immediately adjacent to the crossing corridor. The highest likelihood of impacts (direct and indirect) will be on crossing routes along non-road trails and drainages where livestock have the ability to spread out.

Activities associated with livestock crossing may affect migratory birds through direct disturbance during the breeding season of nests, eggs, adult birds, or fledglings. This results in destruction, disruption, and/or abandonment of the nest or nesting substrate, thereby influencing reproductive success. Livestock crossing activities may have indirect effects to migratory birds by changing habitat structure and function over time and/or a change in prey base species or habitats. These indirect effects are reduced through the implementation of design features that restrict the level of incidental grazing during crossing. Direct and indirect effects are greater for those species which nest in vegetation types that are more prone to grazing (e.g., sagebrush communities, grasslands, riparian) and reduced for those which breed and/or nest in areas that receive little or no use by livestock (e.g., pinyon-juniper woodland, mountain shrub, cliffs). Additionally, direct impacts would be greater for those species that are ground/shrub nesting or ground/shrub forager. There would be no direct impacts to those species that are tree or cliff nesting species.

Design features listed in the proposed action of this document will reduce impacts from activities associated with livestock crossing, and minimize incidental grazing impacts on migratory birds. With these design features, impacts on migratory birds are expected to be minimal and immeasurable on a landscape scale. Individual birds may be affected, but livestock crossing activities are not expected to have a measurable impact on populations or species viability. Overall, conditions are expected to improve slightly with the proposed addition of permit terms and conditions.

Cumulative Impacts – The proposed livestock crossing routes occur within existing allotments where cattle currently graze and are herded on an annual basis. These allotments contain water developments and fences that provide the infrastructure necessary for livestock management. Cattle that graze on these allotments are routinely herded in a manner much like the crossing that is proposed, as they are moved between pastures and to various locations within an allotment throughout the grazing season.

In addition to the impacts described, other reasonably foreseeable actions that could affect migratory bird species and habitat in the foreseeable future on private and public lands include livestock grazing, big game management by Colorado Parks and Wildlife, habitat improvement and fuels management projects, county road maintenance and upgrades, utility corridor maintenance and upgrades, new road rights-of-ways, oil and natural gas exploration and/or development, and continued residential growth and development of private adjacent to the project area. Cumulative impacts to migratory bird species from these activities would be long-term and ongoing within the region including the planning area.

No Action Alternative – The No Action Alternative would have no effect on migratory bird species. Under the no-action alternative livestock crossing through BLM managed lands would not be authorized. Direct and indirect affects described under the proposed alternative would not take place on BLM lands if crossing activities did not occur.

Operators with a recurring need to move livestock between allotments would have to trail livestock along public rights-of ways where no Public Land is intermingled, including county, state, and federal roadways, or to transport animals via truck. Additionally overnight stops would be limited to private land. These activities, since not authorized by BLM, would not have the design features included in the proposed action, and impacts on non-BLM lands would be similar but greater than that described for the proposed action.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment:

The planning area supports a variety of terrestrial wildlife species including reptiles, small mammals, carnivores, birds, and big game (Table 9). A variety of small mammal, bird, and reptile species are scattered throughout the planning area where their specific habitats are present. Habitat is varied and is created by diversity in topography, slope, aspect, vegetation, soils, and climate. Terrestrial wildlife species of concern are addressed in the Threatened, Endangered, and Sensitive Species and Migratory Bird Sections.

Table 9 Most Common or Noted Terrestrial Wildlife Species, Groups of Species, Their Occurrence, and Basic Habitat Type Associations in Planning Area (Land Health Assessments[23]).

Species (Common Name)	Habitat Type	Occurrence
Mule deer	Mixed conifer/Douglas fir and spruce-fir, aspen/mesic mountain shrub mix, alpine meadow, pinyon-juniper, oak-mountain shrub, riparian, sagebrush, grassland.	Common, year-long with seasonal altitude and habitat type variation
Elk	Mixed conifer/Douglas fir and spruce-fir, aspen/mesic mountain shrub mix, alpine meadow pinyon-juniper, oak-mountain shrub, riparian, sagebrush, grassland.	
Bighorn Sheep	Canyon benches, mesa tops, and valley bottoms	Uncommon, small herd present in the Dolores River Canyon, Martin Mesa edge
Cougar	All types, mostly along rim-rock areas.	Common, year-long
Bobcat	All types	Uncommon, year-long
Canada lynx	Mixed conifer/ Douglas fir and spruce-fir, aspen/mesic mountain shrub mix, riparian, alpine meadow	Rare
Coyote	All types	Common, year-long
Jackrabbit, White-tailed	All types	Infrequent, year-long
Cottontail, Mountain	All types	Common, year-long
Porcupine	Pinyon-juniper, riparian	Common, year-long
Prairie Dog	Sagebrush, desert shrub, grassland	Common, year-long; Prairie population
Raptor; Eagles, Hawks, Falcons.	All types	Common, year-long
Merriam's Turkey	Riparian forests, pinyon-juniper, oak-mountain shrub	Riparian communities and PJ in the winter and oak-mtn. shrub spring and fall.
Blue grouse	Oak/Serviceberry	Common, year-long
Chukar	Salt desert	Uncommon, year-long
Birds	All types	Common, warm season
Small mammals	All types	Common, year-long
Amphibians-Reptiles	All types	Common year-long
Bats	All types	Common, mostly warm season

Big Game Species

The Colorado Parks and Wildlife manages big game on a herd, or population basis, using Data Analysis Units (DAU). The DAU represents the year-round range of a big game herd and includes all of the seasonal ranges of a specific herd. Each DAU usually is composed of several Game Management Units and species specific management units (Table 10).

Table 10 Big Game Management Units Within the Project Area.

Game Management Unit	*Pronghorn*	*Mule Deer*	*Elk*	*Bighorn*
62	A-27	D-19	E-20	Uncompahgre
70	--	D-24	E-24	Cow Creek /Wetterhorn
64	--	D-40	E-35	Black Canyon

[23] Gunnison Gorge, North Fork, and Roubideau Land Health Assessments. Available: http://www.blm.gov/co/st/en/fo/ufo/land_health.html

63	--	D-39	E-52	Black Canyon

A spatial analysis was conducted to assess which routes and overnight locations have potential to intersect with special habitats for big game.[24] The project area contains severe winter range, winter concentration, winter range and summer concentration habitat for mule deer; severe winter range, winter concentration and winter range for elk; winter range for pronghorn; winter concentration, winter range, production and summer concentration habitat for desert bighorn; and winter range and production habitat for Rocky Mountain bighorn.

Both mule deer and elk are the most recognized wildlife species found in the planning area. Mule deer are present year-round, but use much of the area as winter range. Elk use the area primarily as winter range although year-round use in the higher elevations of the area has been increasing. Intensity of deer and elk use varies some from year to year and is controlled primarily by the variation in timing and amount of snowfall at higher elevations. During most winters there is a high degree of overlap in mule deer and elk use on several of the wintering areas.

Crossing routes and overnight locations cross through important winter habitat for elk. 67% of all crossing routes pass through elk winter range habitat. 56% of all routes pass through severe winter and 17% of routes pass through winter concentration habitat. 63% of all overnight locations are within elk winter range habitat. 50% of all overnight locations are within severe winter and 13% of all locations are within winter concentration habitat.

Crossing routes and overnight locations cross through important winter and summer habitat for mule deer. 94% of all crossing routes pass through mule deer winter range habitat. 69% of all routes pass through severe winter, 31% of routes pass through winter concentration and 6% of all routes pass through summer concentration habitat. 88% of all overnight locations are within mule deer winter range habitat. 38% of all overnight locations are within severe winter and 25% of all locations are within winter concentration habitat.

Crossing routes cross through winter habitat for pronghorn. No overnight locations are within pronghorn habitat. 6% of all crossing routes pass through pronghorn winter range habitat.

Crossing routes and overnight locations cross through important winter and summer habitat for bighorn. 19% of all crossing routes pass through bighorn winter range habitat. 3% of all routes pass through winter concentration, 14% of all routes pass through production (breeding) habitat, and 3% of all routes pass through summer concentration habitat. None of the overnight locations are within bighorn important habitats. See Threatened, Endangered and Sensitive Species section for additional discussion of desert bighorn. Rocky Mountain bighorn sheep are not considered a BLM sensitive species; however, the management concern for disease transmission is also with this species. Crossing routes and overnight locations are associated with the Black Canyon and Cow Creek/Wetterhorn populations. Routes that directly pass through Rocky Mountain bighorn range include: 173, 182 and 473. However, only routes 173 and 473 are proposed to be used by domestic sheep. No overnight locations are located within Rocky Mountain bighorn range.

[24] BLM. 2015. Wildlife, fish and rare plant report for East Side Livestock Crossing Permit Area, Uncompahgre Field Office. Project File for 2014-0035 EA.

Merriam's turkey: Merriam turkey habitat within this planning area is found mostly on the higher mesas with woody habitat, and along the major stream drainages. They use the larger canyon bottoms at lower elevations as winter range and the pinyon-juniper, oak/serviceberry areas at higher elevations for breeding, nesting, and brood rearing.

Carnivores: Large predators, such as coyotes, bobcats, and mountain lion are present in the area and use it regularly. Of the predators, coyotes are the most numerous and widespread. Black bear populations are probably limited to primarily the major drainages with well-developed riparian vegetation during years of low food production at the higher elevations. Mountain lion likely use almost all of this area at some time or another during the year while hunting, or raising young. Bobcats may also be found throughout most of the area.

Environmental Consequences:

Proposed Action – The proposed action is expected to have similar effects to terrestrial wildlife as described in Threatened, Endangered and Sensitive Species, and Migratory Bird sections. The level of impact to terrestrial wildlife species will change depending on the route surface, the width of the corridor and whether individuals of the species are present within or immediately adjacent to the crossing corridor. The highest likelihood of impacts (direct and indirect) will be on crossing routes along non-road trails and drainages where livestock have the ability to spread out.

Cumulative Impacts – The proposed livestock crossing routes occur within existing allotments where cattle currently graze and are herded on an annual basis. These allotments contain water developments and fences that provide the infrastructure necessary for livestock management. Cattle that graze on these allotments are routinely herded in a manner much like the crossing that is proposed, as they are moved between pastures and to various locations within an allotment throughout the grazing season.

In addition to the impacts described, other reasonably foreseeable actions that could affect terrestrial wildlife species and habitat in the foreseeable future on private and public lands include livestock grazing, big game management by Colorado Parks and Wildlife, habitat improvement and fuels management projects, county road maintenance and upgrades, utility corridor maintenance and upgrades, new road rights-of-ways, oil and natural gas exploration and/or development, and continued residential growth and development of private adjacent to the project area. Cumulative impacts to terrestrial wildlife species from these activities would be long-term and ongoing within the region including the planning area.

No Action Alternative – The No Action Alternative would have no effect on terrestrial wildlife species. Under the no-action alternative livestock crossing through BLM managed lands would not be authorized. Direct and indirect affects described under the proposed alternative would not take place on BLM lands if crossing activities did not occur.

Operators with a recurring need to move livestock between allotments would have to trail livestock along public rights-of ways where no Public Land is intermingled, including county, state, and federal roadways, or to transport animals via truck. Additionally overnight stops would be limited to private land. These activities, since not authorized by BLM, would not have the

design features included in the proposed action, and impacts on non-BLM lands would be similar but greater than that described for the proposed action.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation; Invasive, Non-native Species; and Wildlife, Aquatic):
The project area is part of the Gunnison Gorge, North Fork, and Roubideau Land Health Assessments (LHAs)[25]. Healthy plant communities typically translate to healthy habitats for wildlife and plants, particularly for wide-ranging or generalist species. Across the five LHAs, a majority of the area was meeting Land Health Standards for Standard 3 (native animal communities), but approximately one-third of all LHAs were meeting with problems for Standard 3. Causal and contributing factors to "not meeting" or "meeting with problems" for these LHAs included both current and historic livestock grazing, noxious or invasive weeds, BLM roads and Road ROWs. Additionally corrals, exclosures and stock ponds were listed as associated with impacts to land health indicators. Since proposed crossing routes and overnight locations are within areas that are already used for livestock grazing and existing corrals/holding traps, these activities should not contribute additionally to decline in Land Health ratings.

WETLANDS & RIPARIAN ZONES (includes a finding on Standard 2)

Riparian areas are the primary type of wetland vegetation across the project area. About 2.2 miles of crossing routes pass through riparian habitat. These areas are associated with the following rivers and streams: Dry Creek, North Fork of the Gunnison River, Gunnison River, Roubideau Creek, and two unnamed streams near Sulphur Gulch. The lower elevation riparian areas (below 6,000') are characterized by one or more of the following species: sandbar willow, Fremont cottonwood, skunkbush sumac, New Mexico privet, or tamarisk. The upper elevation riparian area typically has one or more of these wetland species: thinleaf alder, narrowleaf cottonwood, blue spruce, Douglas fir, or Drummond, Geyer's or mountain willow.

The livestock crossing routes pass through many riparian areas which are in relatively good condition. Some routes, however, pass through riparian areas which are known to have ecological problems. While a wide variety of problems have been noted along streams in the vicinity of some of the crossing routes, the most common are listed in order from most to least prevalent: exotic plants, noxious weeds, inadequate vegetation to withstand flooding or to protect banks, and lack of wetland species. About 2.2 miles of crossing routes pass through riparian habitat.

Although BLM has not completed a wetland inventory for the project area, livestock ponds form the primary lentic wetlands on BLM where inventory has occurred. These are generally artificial wetlands which do not have the full range of wetland function, and are often degraded in terms of hydrology and vegetation.

Environmental Consequences:

Proposed Action – Livestock crossing can cause direct damage or death to riparian

[25] Available: http://www.blm.gov/co/st/en/fo/ufo/land_health.html

plants, or result in damage to the streambank within the crossing route. Typically livestock create a few barren paths which receive the highest level of trampling within a crossing route. Vegetation is generally absent from these paths, and the streambank is destabilized within them, and subject to increased erosion.

The majority of riparian vegetation and streambank area within a crossing route receives lesser impacts associated with occasional trampling, incidental grazing, dust or sediment deposition and erosion, and increased competition from weeds. These lesser impacts usually result in a slightly degraded vegetation community and stream channel as compared with outside the crossing route. The degradation is often in the form of slightly higher level of weeds and invasive species, fewer woody species, more annual or rhizomatous herbaceous species, and slightly increased rates of bank erosion. Because the Proposed Action authorizes the crossing activities which have been ongoing for many years, little to slightly positive change in riparian conditions are expected to occur.

Livestock crossing activities may be contributing to some of these concerns. However, the scale of the stream health problem extends beyond the short reaches that encompass the crossing activity. Under the Proposed Action, design features which include active livestock movement will represent an improvement over current practices. Less vegetation will receive incidental grazing, and there is likely to be slightly less trampling as livestock are actively moved. In addition, the BLM may designate additional watering sites within the crossing route located away from riparian areas in order to reduce pressure on them if crossing activities are observed to be causing excessive bank or vegetation damage. Appropriately located livestock water could increase the speed and orderliness of livestock movement, and reduce incidental grazing and trampling in the riparian area. Vegetation conditions in these areas are expected to stay stable, or slightly improve as a result.

The same vegetation impacts are expected to occur in the vegetation communities of special interest.

Trampling and grazing impacts around existing livestock ponds are expected to continue unchanged. As a result, there should be no changes to wetland condition.

Cumulative Impacts – This alternative, when combined with past, present and reasonably foreseeable actions, will have negligible impact on riparian or wetland areas at the watershed level. Slightly more intensively managed livestock crossing activities in the project area could result in very small improvements in riparian vegetation along the crossing routes, but the effects will be so small scale as to be negligible. Riparian areas at the larger, watershed scale are experiencing more substantive impacts on federal and private lands. On federal lands, these include water depletion, flow alterations, livestock grazing and wildlife use, rights of ways, recreation and travel infrastructure, and placer mining. Additional impacts arise from activities on private property in the region. These include cultivation, irrigation, mining, livestock production, residential and commercial land development, placer and gravel mining, and road construction and maintenance.

No Action Alternative – This alternative would not impact riparian plants or stream channels in the crossing routes through trampling or incidental grazing. In the absence of livestock crossing, riparian areas along the crossing routes would likely gradually transition to become more similar to riparian areas outside of the crossing routes. There would likely be incremental improvements to vegetation health in the crossing routes. The conditions around the artificially created wetlands associated with the livestock ponds would also likely improve.

Finding on the Public Land Health Standard for riparian systems: the Proposed Action will likely result in slightly improved livestock crossing practices that would be compatible with improving riparian conditions. Because crossing affects a small portion of individual stream segments, it is unlikely that the improved management will result in a change to the land health status for Standard 2.

FLOODPLAINS

Affected Environment:

Floodplain areas are associated with numerous rivers and streams in the crossing area. Some of the larger floodplains mapped by FEMA include the Gunnison River, N. Fork of the Gunnison, Uncompahgre River, and Roubideau Creek.

The BLM is required to meet the objectives of federal floodplain policy. Executive Order 11988 (21), as amended, established this policy and directs agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practical alternative." The objectives of avoiding development and modification of floodplains are to 1) reduce the hazard and the risk of flood loss, 2) minimize the impact of floods on human safety, health, and welfare, and 3) restore and preserve the natural and beneficial floodplain values.

The existing floodplains vary in condition due to various private and public land use processes. Modifications to the floodplain occur inadvertently in efforts to cross rivers and creeks. Where roads and railroads cross drainages, streams are often channelized or narrowed to accommodate trestles and bridges. This leads to changes in flow patterns, which leads to loss of soil and the conversion of historic wetlands and floodplain plant communities to drier sites (Zeedyk and Clothier, 2009). Livestock crossing can also inadvertently capture flow from stream channels and cause a naturally meandering channel to straighten and increase velocity. As velocity increases, downcutting of the stream bed can lead to steep banks and isolate floodplains from the stream channel.

Environmental Consequences:

Proposed Action – There are 3 crossing routes located in or near drainages. Native vegetation provides the appropriate cover to stabilize sediments on floodplains and capture new sediments during flooding events. See the Environmental Consequences section in Riparian and Vegetation for a more detailed description of potential impacts to native riparian vegetation. Hoof action from livestock can sheer banks and remove woody vegetation from

banks. The absence of dense, flexible woody stems on the banks of the floodplain can increase the shear stress at the toe of the banks and lead to fluvial erosion, bank undercutting and mass failure (Vincent and others, 2009).

Except for routes 542, 469, and 419, the existing crossing routes are generally located on benches above the riparian corridor. The greatest potential for bank sheering would occur at watering sites or during unplanned overnight stays. The design features in this plan require that livestock are kept 1000' from water sources during unplanned overnight stays. This would prevent most of the additional impacts to floodplains and preserve the flood buffering capacity and heath of the floodplains. Additional mitigation measures in both the soils and water quality sections would add further protections

Cumulative Impacts – This action, when combined with the past, present and reasonably foreseeable actions, would add to impacts from other activities on private and federal lands in the watershed, and would contribute to decreased floodplain function. The area analyzed for cumulative impacts is approximately 700,000 acres of public and private lands. Other activities causing impacts to soils on private, BLM and Forest Service lands in the watershed include: road and railway crossings, rights-of-ways, channel straightening, residential encroachment, and recreational use.

The 7.6 miles of crossing routes on or along floodplains on BLM land represent a small fraction of the impacts occurring on public and private lands in the cumulative impact area. The types of impacts expected from other actions in the watershed would be similar to those described for the proposed action. The cumulative effect of all the impacts in the watershed could contribute to decreased floodplain function.

No Action Alternative – No crossing impacts on BLM are anticipated from the No Action Alternative due to trailing activities, however, road crossings, right-of-ways and recreational impacts would still be present.

WATER -- SURFACE (includes a finding on Standard 5)

Affected Environment:

Selenium

Selenium is a naturally occurring soluble non-metal found in the marine sediments of the Mancos Shale. Selenium can be easily mobilized by applying irrigation water to soils derived from Mancos Shale or from surface disturbing activities on Mancos Shale, and delivered to nearby waterways by irrigation return flow, groundwater, or overland flow. Once in the waterways, selenium can move through the aquatic environment, bio-accumulate in organisms and potentially reach toxic levels (Lemly, 2002).

In 1997, the Colorado State Water Control Commission revised the chronic aquatic-life criterion for dissolved selenium from 17 µg/L to 4.6 µg/L. The Selenium Task Force was created soon after to address selenium issues. The group is comprised of private, local, state, and federal agencies including the BLM.

As required by the Clean Water Act and the 303(d) listing, the Colorado Water Quality Control Division released the TMDL in 2009 for the Gunnison River and tributaries and the Uncompahgre River and tributaries. This project is within the contributing area covered by the TMDL. Remediation strategies are implemented in part by the Selenium Task Force as well as the Selenium Management Program administered by the Bureau of Reclamation.

In 2009 the Fish and Wildlife Service issued a Programmatic Biological Opinion (PBO) under the Endangered Species Act to address the recovery of endangered fish species. The PBO addresses the Bureau of Reclamation's Aspinall Unit operations as well as all other public and private uses in the Gunnison Basin. The primary requirements of the PBO are the reoperation of the Aspinall Unit and the implementation of a Selenium Management Program. The BLM is a signatory to a Memorandum of Understanding with the Bureau of Reclamation, State of Colorado, and local irrigation companies, to assist in the development and implementation of a long-range plan. In the MOU, the BLM agreed to, "Evaluate options to conform to a goal of no net new selenium loading from land exchanges, sales, and other actions involving public lands."

Standards and Classifications

The impaired surface waters table below shows the surface waters in the area that are on Colorado's impaired waters, 303(d) or Monitoring and Evaluation list (CDPHE, Water Quality Control Commission, 5 CCR 1002-93).

Impaired Surface Waters in the Crossing EA Area

Segment Description	Portion	Colorado's Monitoring & Evaluation Parameter(s)	Clean Water Act Section 303(d) Impairment	303(d) Priority
COGULG02 Gunnison River, Uncompahgre River to Colorado River	all	Sediment	*E. coli*	H
COGULG12 All tributaries to the Smith Fork which are not on national forest lands	Muddy Creek	*E. coli*		
COGUNF06a Tributaries to N. Fork of Gunnison River not on USFS property	Unnamed tributary to North Fork Gunnsion River near Hotchkiss	Se		L
COGUNF04 All tributaries to the North Fork of the Gunnison River Muddy Creek to Coal Creek; all tributaries to the North Fork of the Gunnison including the Grand Mesa Lakes which are on national forest lands	Muddy Creek	*E. coli (May-Oct)*		

The non-point source pollutants from various land uses on public and private property likely contribute to the E. coli, sediment, and selenium listings. E. coli sources include human, wildlife, and livestock waste. Once E.coli enter the aquatic environment they can persist for long periods of time. Sediment in streams may present a favorable environment for bacteria attachment to soil particles. Very little is known about the extent and mechanisms of this attachment (Ferguson et al., 2003).

Environmental Consequences:

Proposed Action – There are 3 crossing routes that have a greater potential to contribute bacteria, nutrients, and sediment to the impaired segments or are tributary to the impaired segments. Crossing routes 542, 419, and 469 either have a stream crossing or follow routes with close proximity to water bodies.

Storm events associated with the monsoon season generally occur during mid-July to mid-August. These events typically generate enough overland flow to mobilize sediment, nutrients, and E. coli into water features. The historic season of use is typically both spring and fall for each of the crossing routes. Fecal coliforms may survive up to two months in soil, but in the protective medium of feces, can persist up to a year (Bohn and Buckhouse 1985). It is likely that pathogens such as E. coli could be transported during monsoonal events after spring crossing routes are used.

The proposed action would impact 12.9 more miles of streams on BLM land than the No Action alternative. The direct surface impact of hoof action would accelerate erosion and deliver sediment, E. coli., and selenium directly to the stream channels during large storm events where downstream water quality standards are already impaired.

Riparian buffer strips can reduce the transport of sediment, nutrients and bacteria to water bodies. A 10-m wide grass strip was sufficient to reduce fecal coliform contents in runoff by as much as 70% (Young et al., 1980; Walker et al., 1990). Design features requiring emergency bed grounds 1,000' from water features and keeping crossing routes on benches and terraces at least 50 feet from streams and riparian areas would reduce runoff of sediment, selenium, and bacteria into water features.

Cumulative Impacts – This action, when combined with the past, present and reasonably foreseeable actions, would add to impacts from other activities on private and federal lands in the watershed, and would contribute to decreased water quality. The area analyzed for cumulative impacts is approximately 700,000 acres of public and private lands. Other activities causing impacts to water quality on private, BLM and Forest Service lands in the watershed include: trans-basin water diversions, irrigation and farming, oil and gas development, rights of ways, residential and municipal development, recreation, and travel infrastructure.

The 12.9 miles of crossing routes contributing to degraded water quality on BLM land represents a small fraction of the impacts occurring on public and private lands in the cumulative impact area. The types of impacts expected from other actions in the watershed would be similar to

those described for the proposed action. The cumulative effect of all the impacts in the watershed could contribute to decreased water quality.

No Action Alternative – No impacts to water quality on BLM land are anticipated from the No Action Alternative.

Finding on the Public Land Health Standard for upland soils: The BLM conducted three Land Health Assessments (LHAs) in the crossing area. Water quality exceedances were found in several water bodies for selenium as well as fecal coliforms (the representative bacteria used prior to E. Coli). There are 48.3 miles of streams either not meeting or meeting with problems in the crossing area. Soil surface indicators are used as surrogates to determine the potential ratings for water bodies. Surrogate indicators include the amount of bare soil surface, live plant basal coverage, and the amount of plant litter on the soil surface. More detailed information can be found in The Gunnison Gorge (2011), North Fork (2007), and Roubideau (2005)LHAs. Crossing routes have historically existed and are contributing to some of the impaired stream segments on the State 303d list. This proposed action could slightly improve water quality with the implementation of design features to reduce impacts to water quality. However, the improvements if any would likely be small given the scope of the impacts to water quality occurring on private and public lands in the region. Standard would continue to meet on some streams and not meet on others until further assessed.

SOCIO ECONOMICS

Affected Environment: Grazing has been a viable part of the local economy for a century. Permitted grazing and livestock crossing on public lands is a large factor in keeping local family owned ranches and the cattle industry viable. This in turn has an effect on maintaining the stability of the local economy. The economic benefit of ranching generally increases as community size decreases. This means that small communities in the planning area are much more economically dependent on ranching and agriculture than larger communities with more diverse economic bases. Currently 13 local ranchers have applied for crossing permits on the routes in the Proposed Action, and rely on this public access for the viability of their operations as there is a strong interdependence between grazing on private and Public Lands. This is influenced to a degree by elevation and the need to move livestock from low lying winter ranges to higher elevation summer pastures. Historically, trailing livestock has been a means to accomplish this transition between grazing areas.

Environmental Consequences:

Proposed Action – Issuing Crossing Permits under the Proposed Action would continue to facilitate ranchers in running their livestock operations, which could include grazing on federally, state, and privately owned rangelands within the project area. The proposed action would continue the practice of trailing livestock, which is an integral part of many ranchers' grazing operations; this would be a positive benefit for local social and economic values.

Cumulative Impacts – Income derived from ranching operations would continue to flow

into the local economy, and add cumulatively to other social and economic values.

No Action Alternative – There would be negative impacts to local ranchers under the No Action alternative. The ability of ranchers who have historically used crossing routes to safely and efficiently move livestock between allotments or pastures would be greatly reduced. Operators with a recurring need to move livestock between allotments would have to trail livestock along public rights-of ways where no Public Land is intermingled, including county, state and federal roadways, and overnight stops would be limited to private land. Another option for livestock operators would be to transport animals via truck. Trucking livestock is the most cost-effective method when transporting livestock over very long distances, such as to market. As proposed, livestock crossing occurs between seasonal pastures or allotments and over relatively short distances. The costs involved in obtaining trucks and subsequently transporting livestock over such short distances (under 100 miles) would impart an economic burden to the applicants.

There are some routes which cannot be accessed by truck or via non-Public Land. In the case of these routes, grazing would cease or the BLM may potentially become engaged in issues revolving around private land access. Ranchers may be unable to graze the Public Land they hold Grazing Permits for, or be unable to access grazing permits on the National Forest or their own private land. This would force them to buy hay to feed cattle or sell their cattle, which both are negative impacts to the operators and the local economy.

RANGELAND MANAGEMENT

Affected Environment: The project area consists of 106,636 acres of Public Land grazing allotments, which is interspersed and intermingled with privately owned, state, and other federally managed land. There are 30 allotments within the planning area. Some of the intermingled state and private lands are cooperatively managed with Public Land

There are approximately 7,900 AUMs of permitted sheep grazing, and 3,799 AUMs of permitted cattle grazing in the project area, for a total of 11,879 permitted AUMs. Depending on the allotment, its location, and its prescribed management, timing of permitted grazing may occur during the spring, summer, fall, winter, or any combination of these seasons. Livestock crossing occurs at different times throughout the year but mostly in the spring or early summer and again in the fall to facilitate grazing that is moving onto or off of BLM lands from National Forest Service lands or between BLM allotments, private or state land. The timing and duration of livestock crossing within a given season may vary from year to year because of the current year's resource conditions, weather, wildfire, vegetation treatments, individual livestock operation needs, or seasonal forage production.

Livestock crossing has occurred annually within the project boundary for decades. Prior to train stock cars and semi-trucks, all BLM grazing allotments had some form of livestock crossing events. Many historic crossing events have been replaced with semi-trucks, but livestock crossing is still a necessity throughout the project area because many BLM roadways are not

engineered for semi-trucks. Other challenges to trucking cattle include steep and rocky terrain, the expense associated with trucking, and livestock safety concerns related to trucking. Livestock injuries and deaths can occur during trucking when conducted off of paved roads.

Each crossing event varies depending on the individual livestock operator. Cattle are generally herded by individuals on horseback; however, motorcycles or ATV's are also used by some operators, usually on roads, motorized trails, and rights-of-way. Cattle are gathered into a herd and then moved in the direction of the intended route. Once cattle are on the route they tend to spread out into a formation of 6 to 10 abreast, allowing them to travel in a relatively narrow area. Large cattle herds are frequently broken into smaller groups of up to 200 cattle in order to facilitate control and increase speed. Sheep move differently than cattle. Sheep are moved in large bands of 1,000 or more. Individuals tend to stay tightly packed and move as a cohesive unit. On high volume roads livestock operators frequently use a pilot car and/or warning signs to warn oncoming traffic of the event. Where there is a high frequency of livestock crossing events or where there are large numbers of livestock that use a given route, it is common practice to have livestock take different routes at different times of year or different routes from year to year in order to reduce negative impacts and to facilitate grazing management strategies.

Environmental Consequences:

Proposed Action – The most likely impact of the proposed action is minor forage utilization along the crossing corridor. Livestock being moved tend to eat small amounts of forage as they walk. Utilization levels that could occur during a livestock crossing event are typically very low (0-5% utilization) as opposed to the moderate utilization levels that occur under active livestock grazing (30-50% utilization for native vegetation). Where fences run adjacent to roadways, as is the case with many routes, impacts of incidental grazing will be further lessened due to the fact that livestock are confined to the road and road right-of-way. The highest likelihood of noticeable incidental forage utilization will be on non-road trails and drainages where livestock have the ability to spread out. However this impact is still considered negligible due to the fact that livestock will be kept in constant motion and not allowed to stop and freely graze. Where overnighting occurs within the confines of corrals, livestock would be fed hay and water hauled to the overnight location, subject to General Term and Condition # 4 and #6. Where overnighting occurs and there are no corrals present, sheep freely graze and bed-down in large groups. This could increase incidental forage consumption nominally.

Where proposed routes cross allotments that may be being actively grazed via a Grazing Permit, the potential exists for livestock owned by different operators to mix. While these crossing activities have historically occurred without major conflict, the UFO would continue to review annual applications for crossing use to ensure that conflicts in scheduling do not exist. The UFO would also ensure crossing events by operators utilizing the same routes do not coincide to prevent livestock mixing.

Permitting crossing permits, complete with the listed Design Features, would facilitate proper range management. Livestock crossing is an essential activity for many BLM grazing strategies, which frequently involve using different pastures or allotments at different times of year or entering an allotment from a different direction from year to year. These types of rest-rotation strategies are designed to benefit range plant health by utilizing plants less frequently or during

different seasons. Allowing livestock operators to access allotments and pastures via the routes described in the proposed action is vital to this type of management.

Cumulative Impacts – The proposed livestock crossing routes occur within existing allotments where livestock currently graze and are herded on an annual basis. Other activities which occur in the project area are motorized and non-motorized recreation, general travel, and livestock grazing. Cumulative impacts are not expected to be noticeable. Forage utilization of actively grazing livestock, combined with incidental grazing by livestock crossing a route, when combined, could be slightly higher than the utilization of active grazing alone. However, because consumption of forage by livestock who are being quickly moved through an area is generally 5% or less, the ability to detect the difference between what is consumed by grazing livestock versus what is consumed by crossing livestock would be very difficult. Estimates regularly used by BLM staff (including key forage species method, ocular estimates, and height/weight curves) to determine forage utilization have a margin of error of 10% or more. Therefore detecting a difference of 5% increased utilization would be unreliable. Additionally, any minor cumulative impacts potentially seen in increased forage utilization would be confined to proportionally small areas. The proposed crossing events would not add appreciably to any ongoing impacts associated with currently permitted livestock activities.

No Action Alternative – Under the no-action alternative livestock crossing through BLM managed lands would not be authorized. There will be no negative impacts associated with incidental livestock grazing along the route corridor.

Denial of crossing permits could impact administration of BLM grazing permits within the project area. Failure to allow BLM grazing permit holders to use crossing routes which facilitate the type of management required by the BLM could result in problems with permit compliance. In instances where trucking livestock to the allotment is possible, this may not be an issue. However, frequently trucking livestock is not an option due to the fact that many BLM roads and trails cannot support semi-truck travel. If a BLM permittee is unable to truck their livestock to the location the BLM requires them to use in a given season, and they are unable to trail their livestock to that location, the result is an inability to follow BLM prescribed management and thus a potential inability to utilize the grazing permit. This could lead to negative impacts to individual and community socio-economics. See the socio-economic section for more details.

CUMULATIVE IMPACTS SUMMARY

Cumulative impacts for each element or resource are discussed within each of the sections above. Cumulative impacts are the environmental impacts that could result from the implementation of the Proposed Action, when added to the impacts from all other past, present, and reasonably foreseeable activities, regardless of who is conducting such activities. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. The cumulative effects analysis considers the geographic scope of the cumulative effects and past, present, and reasonably foreseeable actions.

PERSONS / AGENCIES CONSULTED

The BLM UFO consulted the local ranching community and current BLM grazing permit holders on the east side of the Field Office.

INTERDISCIPLINARY REVIEW: The following BLM personnel have contributed to and have reviewed this environmental assessment.

Name	Title	Area of Responsibility
Jedd Sondergard	Hydrologist	Soils, Floodplains, Surface Water
Angela LoSasso	Rangeland Management Specialist	Range Management, Invasive, Non-Native Species, Wetlands & Riparian Zones, Project Lead
Edd Franz	Outdoor Recreation Planner	Recreation, Wilderness Study Areas, Wild and Scenic Rivers
Glade Hadden	Archaeologist	Cultural and Paleontological Resources, Native American concerns
Lynae Rogers	Rangeland Management Specialist	Vegetation
Melissa Siders	Wildlife Biologist	Terrestrial Threatened, Endangered and Sensitive Species, Migratory Birds, Terrestrial Wildlife

References *List references as applicable.*

Belnap, J. 1995. Surface disturbances: Their role in accelerating desertification. *Environmental Monitoring and Assessment* 37:39-57.

Belnap, J. 2001. Biological soil crusts and wind erosion. In: J. Belnap and O.L. Lange, editors. Biological Soil Crusts: Structure, Function, and Management. Ecological Studies, Vol. 150. Berlin Heidelberg: Springer-Verlag.

Belnap, J. 2002. Nitrogen fixation in biological soil crusts from southeast Utah, USA. *Biology and Fertility of Soils* 35:128-135.

Belnap, J., Reynolds, R. L., Reheis, M. C., Phillips, S. L., Urban, F. E., and Goldstein, H. L., 2009, Sediment losses and gains across a gradient of livestock grazing and plant invasion in a cool, semi-arid grassland, Colorado Plateau, USA: Aeolian Research, v. 1, p. 27-43.

Bohn, C.C. and J.C. Buckhouse. 1985. Coliforms as an indicator of water quality in wildland streams. J. Soil and Water Conser. 40:95-97.

Bureau of Land Management, Uncompahgre Field Office (BLM). 2002. North Delta Land Health Assessment. 2001-2002. Montrose, CO. 110 pp.

Bureau of Land Management, Uncompahgre Field Office (BLM). 2009b. *Sclerocactus glaucus* Monitoring Projects and Trends in the BLM Uncompahgre Field Office, 1978-2009. (Unpublished report prepared by Charlie Sharp in support of the U.S. Fish and Wildlife Service's Revision of the Species Recovery Plan, December 15, 2009.) Montrose, CO. 13 pp.

Bureau of Land Management, Uncompahgre Field Office (BLM). 2010a. Escalante Land Health Assessment. 2009-2010. Montrose, CO. 47 pp.

Bureau of Land Management, Uncompahgre Field Office (BLM). 2011. Clay-loving wild buckwheat monitoring data from the Colona Land Health Assessment unit. Unpublished data provided by the Uncompahgre Field Office, Montrose, CO.

CDPHE, Water Quality Control Commission, Regulation #93, Colorado's 303(d) list of Impaired Waters and Monitoring and Evaluation List, (5 CCR 1002-93), Adopted February, 2012, Effective March 30, 2012.

Colorado Department of Agriculture. 2014. Noxious Weed Species. Available: http://www.colorado.gov/cs/Satellite/ag_Conservation/CBON/1251618874438. Accessed 10/21/2014.

Denver Botanic Gardens (DBG). 2010a. Denver Botanic Gardens Monitoring Review – 2010. Review of *Eriogonum pelinophilum*, Fairview South and Wacker Ranch. Denver, CO. 7 pp.

Ferguson, C., de Roda Husman, A.M., Altavilla, N., Deere, D., Ashbolt, N., 2003. Fate and transport of surface water pathogens in watersheds. Crit. Rev. Environ Sci. Techn. 33, 299–361.

Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. *Conservation Biology* 8:629-644.

Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: A quantitative review. *Western North American Naturalist* 60:155-164.

Lemly, A.D., 2002, Selenium assessment in aquatic ecosystems—A guide for hazard evaluation and water quality criteria: New York, Springer-Verlag, 161 p.

Meyer, S.E., Quinney, D., and J. Weaver. 2005. A life history study of the Snake River plains endemic *Lepidium papilliferum* (Brassicaceae). *Western North American Naturalist* 65:11-23.

Meyer, S.E., Quinney, D., and J. Weaver. 2006. A stochastic population model for *Lepidium papilliferum* (Brassicaceae), a rare desert ephemeral with a persistent seed bank. *American Journal of Botany* 93:891-902.

Neff, J.C., Reynolds, R.L., Belnap, J., and P. Lamothe. 2005. Multi-decadal impacts of grazing on soil physical and biogeochemical properties in southeast Utah. *Ecological Applications* 15:87-95.

Ouren, D.S, Haas, C., Melcher, C.P., Stewart, S.C., Ponds, P.D., Sexton, N.R., Burris, L., Fancher, T., and Z.H. Bowen. 2007. Environmental Effects of Off-highway Vehicles on Bureau of Land Management Lands: A Literature Synthesis, Annotated Bibliographies, Extensive Bibliographies, and Internet Resources. U.S. Geological Survey, Open-File Report 2007-1353. 225 pp.

Potter, L.D., Reynolds, R.S., and E.T. Louderbough. 1985. Mancos shale and plant community relationships: field observations. *Journal of Arid Environments* 9:137-145.

Texas Invasives.org. 2014. Horehound. Available: http://texasinvasives.org/plant_database/detail.php?symbol=MAVU. Accessed 10/23/2014

Vincent, K.R., J.M. Friedman, and E.R. Griffin. 2009. Erosional consequence of saltcedar control. Environmental Management 44(2): 218-227.

U.S. Fish and Wildlife Service (FWS). 2010. Recovery Outline for the Colorado hookless cactus (*Sclerocactus glaucus*). Colorado Ecological Services Field Office (April 2010), Grand Junction, CO. 17 pp.

Walker, S.E., Mostaghimi, S., Dillaha, T.A., Woeste, F.E., 1990. Modeling animal waste management practices: impacts on bacteria levels in runoff from agricultural lands. Trans. ASAE 33, 807–817.

Zeedyk, William D., and Clothier, Van. Let the Water do the Work: Induced Meandering, an Evolving Method for Restoring Incised Stream Channels. International Standard Book Number: 978-0-9708264-3-5.

Young, R.A., Huntrods, T., Anderson, W., 1980. Effectiveness of vegetated buffer strips in controlling pollution from feedlot runoff. J. Environ. Qual. 9, 487–493.

U.S. Department of the Interior
Bureau of Land Management Uncompahgre Field Office
2465 S. Townsend Ave.
Montrose, CO 81401

Finding of No Significant Impact (FONSI)

DOI-BLM-CO-SOS0-2014-0035 EA

Project Name: East Side Uncompahgre Field Office Livestock Crossing Permits

Location: The project area is located on the east side of the Uncompahgre Field Office (UFO), including portions of Montrose and Delta Counties, Colorado. Livestock crossing permits authorize the movement of livestock across Public Lands, and occur outside of existing term grazing permits.

Background: In July of 2012 the Bureau of Land Management, Colorado State Office, issued Instructional Memorandum (IM) 2012-031. The purpose of this IM is to provide guidance concerning the issuance of livestock crossing permits resulting from applications to cross public lands from current livestock grazing permittees/lessees and non permittees/lessees.

In February 2012, the BLM UFO solicited the local community for their knowledge of livestock crossing routes which include Public Land in the east side of the UFO, and their interest in applying for crossing permits in future grazing seasons. Again, in spring 2013, livestock operators in the local area, including current BLM grazing permittees, were asked to submit requests for livestock crossing routes that they expect to use in the future so that the BLM could prepare to respond to future applications.

The Uncompahgre Field Office has completed Environmental Assessment (EA) # DOI-BLM-CO-S050-2014-0035, which analyzes the effects of issuing livestock crossing permits on known routes.

Finding of No Significant Impact: Based on the analysis of potential environmental impacts contained in DOI-BLM-CO-S050-2014-0035 EA, I have determined that the Proposed Action will not have a significant effect on the human environment. The proposed action includes mitigation measures which are listed in the Design Features section of the EA.

Rationale: This FONSI is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), with regard to the context and the intensity of impacts described in the EA.

Context: The east side of the UFO consists of 80 grazing allotments, including intermingled state and private lands. Some of the intermingled state and private lands are cooperatively managed with Public Land. The UFO administers approximately 32,300 AUMS on the east side

of the field office. Other Pubic Land uses in the area include permitted mining, oil, and gas extraction as well as recreational activities such as hunting, hiking, camping, mountain biking, and recreational motorized vehicle use.

Intensity:

1) Impacts that may be both beneficial and adverse.
Beneficial impacts of this project would be the formal issuance of Livestock Crossing Permits which include special Terms and Conditions which would reduce identified impacts to Public Land resources. Past practices for permitting livestock crossing have been inconsistent; a primary benefit of this project is the establishment of a standardized system for the application, issuance, and/or denial of crossing applications.

Prior to issuing any crossing permit, the BLM will ensure that the annual number of livestock and annual number of times a route (or route segment) has been used does not exceed what has been analyzed in the Proposed Action. Resource protection stipulations specific to each route will be incorporated based on analysis. Terms and Conditions for each crossing permit will be included as needed for items such as special status species and their habitat, wildlife, cultural sites eligible for the National Register of Historic Places, and standards for rangeland health.

Adverse impacts could occur if there are conflicts between motor vehicle users and livestock operators conducting a crossing event. Other adverse impacts could occur in the form of slightly increased forage utilization and soil and vegetation trampling along crossing routes.

2) The degree to which the proposed action affects public health and safety.
There is potential conflict between livestock operators and motor vehicle users, especially on paved county roads. Livestock operators frequently employ pilot cars to warn oncoming traffic of crossing events on paved county roads. Potential impacts to public health and safety are not anticipated to be at a level that is significant.

3) Unique Characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
There are no eligible historic properties recorded within the project area that may be impacted by the project as designed.

The project area includes a very small portion of one Area of Critical Environmental Concern (ACEC). The Native Plant ACEC is located in the vicinity of Peach Valley. It was designated for the protection of unique native plant populations. Livestock crossing would not affect the values for which this ACEC was established.

The project area includes both the UFO planning area and the Gunnison Gorge National Conservation Area (GGNCA) planning area. One section of the Gunnison River in the GGNCA has been determined to be to be suitable for inclusion in the National Wild and Scenic River System (NWSRS), with a tentative classification of recreational. The ORVs for this river segment are recreational and scenic. In addition, approximately 2 miles of the proposed crossing

routes are within the river study corridors of segments determined to be eligible for inclusion in the NWSRS. Approximately 3.5 miles of crossing routes in the UFO planning area are within river study corridors of river segments determined to be eligible for inclusion in the NWSRS. These rivers are Potter Creek, Monitor Creek, and Roubideau Creek. The overall impact from livestock crossing would be low and is not anticipated to affect preliminary classifications of stream segments, or threaten outstandingly remarkable values in the UFO or GGNCA planning areas.

There are no Wilderness Areas, Prime or Unique Farmlands, wetlands or lands with wilderness characteristics within the project area.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
There is expected to be little if any public controversy with the proposal.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
The proposed action is not unique for this area as livestock crossing has occurred on all known routes in the past. The effects have been reasonably predictable, and effects from the proposed action would not be classified as highly uncertain or involving unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
The Proposed Action would not set a precedent for issuing future Livestock Crossing Permits for routes not analyzed in the EA. Issuance of crossing permits on routes not analyzed in the EA would need to be evaluated on their own merits.

7) Consideration of the action in relation to other actions with individually insignificant but cumulatively significant impacts.
Other activities, including permitted grazing, recreation, oil and gas and mineral extraction are foreseeable but it is not anticipated that cumulative impacts of any significance would occur.

8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.
Inventories have been partially completed for historic and cultural resources in the area, and no significant impacts to districts, sites, highways, structures, or potential loss or destruction of significant scientific resources have been identified. Inventory will be completed in 2015. If any unidentified sites are discovered, design features would be in place to avoid adverse impacts.

9) The degree to which the action may adversely affect an endangered or threatened species or its critical habitat.
All threatened, endangered, candidate and sensitive species known to occur in the analysis area were considered in the EA. For some species, impacts to individuals may occur but would not likely adversely affect any population.

10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.
The proposed action does not threaten violation of any laws or regulations imposed for the protection of the environment.

Determination: This Finding of No Significant Impact is based on the information contained in the EA and my consideration of criteria for significance (40 CFR 1508.27). It is my determination that: 1) the implementation of the proposed action will not have significant environmental impacts; 2) the Proposed Action is in conformance with the San Juan/San Miguel Resource Management Plan; and 3) the Proposed Action does not constitute a major federal action having significant effect on the human environment. Therefore, an Environmental Impact Statement is not necessary.

Approved:

Barbara Sharrow 1-7-15

Barbara Sharrow Field Manager Uncompahgre Field Office Date

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
UNCOMPAHGRE FIELD OFFICE
2465 South Townsend
Montrose, CO 81401
www.blm.gov/co/st/en/fo/ufo.html

In Reply Refer To: COS050 (4160)

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 7, 2015

NOTICE OF FINAL DECISION

Livestock Grazing Permittees:

INTRODUCTION/BACKGROUND

The project area is located on the east side of the Uncompahgre Field Office (UFO), including portions of Montrose and Delta counties. Livestock crossing permits authorize the movement of livestock across Public Lands, and occur outside of existing term grazing permits.

In July of 2012 the Bureau of Land Management, Colorado State Office, issued Instructional Memorandum (IM) 2012-031. The purpose of this IM is to provide guidance concerning the issuance of livestock crossing permits resulting from applications to cross public lands from current livestock grazing permittees/lessees and non permittees/lessees.

In February 2012, the BLM UFO solicited the local community for their knowledge of livestock crossing routes which include Public Land in the east side of the UFO, and their interest in applying for crossing permits in future grazing seasons. Again, in spring 2013, livestock operators in the local area, including current BLM grazing permittees, were asked to submit requests for livestock crossing routes that they expect to use in the future so that the BLM could prepare to respond to future applications.

The Uncompahgre Field Office has completed Environmental Assessment (EA) # DOI-BLM-CO-S050-2014-0035, which analyzes the effects of issuing livestock crossing permits on known routes in the project area. The EA can be found at the Uncompahgre Field office website. http://www.blm.gov/co/st/en/BLM_Information/nepa/ufo.html

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

A Finding of No Significant Impact (FONSI) was prepared, based on the information contained in EA # DOI-BLM-CO-S050-2014-0035 and my consideration of criteria for significance (40 CFR 1508.27). It is my determination that: 1) the implementation of the proposed action will not have significant environmental impacts; 2) the Proposed Action is in conformance with the Uncompahgre Resource Management Plan; and 3) the Proposed Action does not constitute a major federal action having significant effect on the human environment. Therefore, an Environmental Impact Statement is not necessary.

FINAL DECISION

It is my decision to authorize livestock crossing permits for a 10 year period with special Terms and Conditions to operators who submit applications to move livestock across BLM-administered lands within the east side of the Uncompahgre Field Office. This decision applies to routes identified in Attachment 1, and applies to crossing events that occur on allotments where livestock operators either do not have a grazing permit for the allotment they are crossing through and/or operators who need to cross an allotment they hold a permit for outside of their permitted grazing dates.

Livestock crossing permits will be issued for a one-time use on routes applied for, for up to 10 consecutive years, unless resource conditions on the ground substantially change. 43 CFR 4130.6 states that "...crossing permits ... have no priority for renewal and cannot be transferred or assigned". Therefore, crossing permits will not be considered a part of, or a special Term and Condition of, any BLM issued Grazing Permit which holds transferable Preference.

Grazing permittees or other livestock producers requesting to trail livestock across BLM-administered lands will be required to submit an application and pay all applicable fees prior to crossing. The BLM will issue one-time crossing permit which will specify the livestock crossing route, the period of use (dates) during which livestock crossing will be permitted, locations where livestock will be permitted to overnight, and the maximum number of livestock which will cross the route during the permitted event. Additionally, special Terms and Conditions specific to each crossing route will be included as needed for resource protection. These Terms and Conditions and the routes they apply to are identified in Attachment 1. Prior to issuing any crossing permit, the BLM will ensure that the annual number of livestock and annual number of times a route (or route segment) has been used does not exceed that shown in Attachment 1.

Attachment 1 lists the crossing route segments, total number of sheep and total number of cattle permitted per year for each segment, total number of livestock permitted per year for each segment, and the total number of times the segment is used in one year. Attachment 1 also includes a list of overnight locations. Crossing events which utilize these segments will have the option of allowing cattle to rest overnight at the locations identified. Feed and water will not be provided by the BLM where overnight locations are on Public Land.

BLM will approve applications for livestock crossing permits on the specified route segments listed in Attachment 1 for any time of year, unless resource protection measures prevent crossing during certain seasons or during specific, defined, on-the-ground conditions (see Terms and Conditions). Annual authorizations to cross livestock will not exceed the total livestock numbers per year or the maximum route segment uses per year described in Attachment 1.

Resource protection stipulations specific to each route will be incorporated based on analysis. Terms and Conditions for each crossing permit will be included as needed for items such as special status species and their habitat, wildlife, cultural sites eligible for the National Register of Historic Places, and standards for rangeland health.

Terms and Conditions

Livestock crossing routes will be subject to special stipulations based on resource protection needs identified in DOI-BLM-CO-S050-2014-0035 EA. All routes will be subject to Best Management Practices (BMP) where applicable, General Terms and Conditions, and Terms and Conditions for the protection of Cultural Resources. Identified routes will be subject to Terms and Conditions for wilderness study areas, soils, surface waters, wild and scenic rivers, special status species and their habitat, and wildlife.

The following BMP will be applied to livestock crossing activities where applicable:

- ROWs will be avoided to the extent possible (does not apply to road rights-of-way). If they cannot be avoided, caution will be taken to ensure disruption of use or impacts to the facilities do not occur.
- Trailing will not be allowed during flowering or germination periods where possible.
- If unplanned overnight stays are needed, locate livestock bed grounds at least 1,000 feet away from water sources such as ponds, streams, wetlands, springs, and seeps.

General Terms and Conditions—Includes all route ID numbers:

1. Livestock operators will adhere to the route described in the Crossing Permit. No deviations from this route will be authorized.
2. Livestock will only cross during the time frame designated in the Crossing Permit.
3. Livestock operators are asked to make a courtesy call to their BLM rangeland management specialist several days before a permitted crossing event is to occur.
4. Livestock will feed, water, and overnight only at the locations designated in the Crossing Permit.
5. Additional watering sites may be required to reduce impacts to riparian, sensitive vegetation or other resources, as identified by BLM.
6. Livestock will be managed in a way that does not encourage the establishment or spread of weeds or other invasive plants and does not conflict with efforts to treat such weeds and invasive plants. Hay for feeding will follow the guidelines outlined in BLM CO IM 1997-005 for noxious weed management.
7. Permittee will place signs along crossing routes warning public of the presence of working dogs.

Terms and Conditions for Cultural Resources—Includes all route ID numbers:

1. If historic or archaeological materials are uncovered during permitted activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the Authorized Officer (AO). Within five working days the AO will inform the operator as to:

    1) whether the materials appear eligible for the National Register of Historic Places;
    2) the mitigation measures the operator will likely have to undertake before the activity may proceed.

2. Pursuant to 43 CFR 10.4(g) the holder of the authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer

Terms and Conditions for wilderness study areas—Includes Route ID numbers 419, 554, 580:

1. Within wilderness study areas (WSAs) no ground disturbing trail construction or motorized travel may occur, with the following exception: any livestock route in existence prior to October 21, 1976 may be used and maintained in the same manner and degree as what existed on that date.

Terms and Conditions for Soils —Includes route ID numbers 173, 177, 179, 180, 181, 220, 419, 439, 469, 532, 542, 554, 555, 556:

1. Avoid crossing during wet conditions. If depth of hoof prints exceeds 2 inches, find alternate routes on existing roads. This applies to cross country routes directly adjacent to existing roads and routes in drainages and trails with severe erosion hazard.
2. Avoid crossing during "exceptional (D4)" drought conditions as defined by the USDA drought monitor. Alternate routes on roads should be used to prevent pulverization of soil aggregates, soil structure, and biological soil crusts. This applies to routes in drainages and trails with severe erosion hazard.

Terms and Conditions for Federally Protected and BLM Sensitive Plants, including Clay-loving buckwheat and Colorado hookless cactus—Includes route ID numbers 161,177, 179, 220, 404, 419, 439, 469, 470, 532, 542, 554, 555, 556:

1. Motorized modes of travel will stay on designated motorized routes except when retrieving dead or injured livestock or during emergency situations.
2. Within 200 meters (656 feet) of listed plants, motorized access for livestock trailing operations will be limited to existing roads and routes. Any additional access proposed for grazing operations would require additional surveys and Section 7 Consultation.
3. Permittee shall avoid known individuals or populations during livestock herding and trailing activities on BLM administered lands where practical. Maps would be provided to permittees to facilitate avoidance.

4. Trailing activity will be concentrated within existing road corridors as much as practicable and in a timely and efficient manner. Overnighting of livestock within occupied habitat is prohibited unless the area has been cleared for threatened, endangered, and special status species prior to overnight activity.
5. Crossing routes not on existing roads or trails is prohibited unless the area has been cleared for threatened, endangered, and special status species prior to crossing activity. Routes which must be cleared for threatened, endangered, and special status species prior to issuance of a crossing permit are 161, 177, 180, 181, 182, 407, 418, 420, 422, 500, and 555.

Terms and Conditions for Surface Water—Includes route ID numbers 542, 419, 469:

1. Livestock trailing routes should be on benches/terraces above narrow drainages or at least 50 feet from streams and drainages that support riparian zones.

Terms and Conditions for Wild and Scenic River Resources—Includes route ID numbers 419, 542, and 580. May also apply to future WSR designated routes:

1. On livestock crossing routes within the study corridors of eligible or suitable sections of river classified as "wild" and managed under the Wild and Scenic River Act, no trail building, modifications to the stream banks or mechanical removal of vegetation would be allowed.

Terms and Conditions for Bighorn Sheep-1 –Includes Route ID number 424 and overnight location numbers 20, 21

1. All domestic ewes must be bred before crossing onto BLM.
2. Mandatory use of at least two guard dogs per domestic sheep band to deter comingling.
3. Only healthy domestic sheep shall cross BLM lands.
4. Sweep crossing routes within 24 hours of moving off to capture any strays.
5. Remove sick, physically disabled or dead domestic sheep from BLM lands as soon as possible after discovery.
6. Use only highly gregarious breeds of domestic sheep.
7. Maintain a domestic sheep band of no greater than 2,000 head based on manageability by herder.

Terms and Conditions for Bighorn Sheep-2 –Route ID numbers 161, 173, 179, 180, 181, 185, 412, 422, 425, and 594; Overnight location numbers 13, 14, 19; include the above, plus:

8. Mandatory use of at least three guard dogs per domestic sheep band to deter comingling.
9. During spring use, limit domestic sheep band size for ewes with lambs. Numbers would be determined on site-specific information.
10. No yearling domestic ewes will cross BLM land during the bighorn sheep breeding season (Rocky Mountain 11/1-12/31; Desert 8/1-9/30).

RATIONALE

Approval of livestock crossing permits will facilitate movement of livestock from, to, or between grazing allotments. This decision meets the need of the proposed action, which includes

responding to applications for crossing permits, and complying with the Federal Land Policy and Management Act (FLPMA). Issuing livestock crossing permits is in conformance with the Uncompahgre RMP.

AUTHORITY
This proposed decision is authorized by:

43 CFR § 4130.6-3, which states "A crossing permit may be issued by the authorized officer to any applicant showing a need to cross the public land or other land under the Bureau of Land Management control, or both, with livestock for proper and lawful purposes. A temporary use authorization for trailing livestock shall contain terms and conditions for the temporary grazing use that will occur as deemed necessary by the authorized officer to achieve the objectives of this part."

43 CFR § 4130.3-1(a), which states in pertinent part "The authorized officer shall specify the kind and number of livestock, the period(s) of use, the allotment(s) to be used, and the amount of use, in animal unit months, for every grazing permit or lease."

43 CFR § 4130.3-1c), which states "Permits and leases shall incorporate terms and conditions that ensure conformance with subpart 4180 of this part."

PROTEST AND/OR APPEAL
Pursuant to H.R. 3547, Consolidated Appropriations Act 2014, this BLM final decision is not subject to protest and/or administrative appeal under subpart E of Part 4 of Title 43, Code of Federal Regulations and subpart 4160 of part 4100 of such title.

Barbara Sharrow
Field Manager
Uncompahgre Field Office

Attachment: Route Segments (Map and Tables)

Attachment 1

Map: Route Segments Where Crossing May Be Permitted

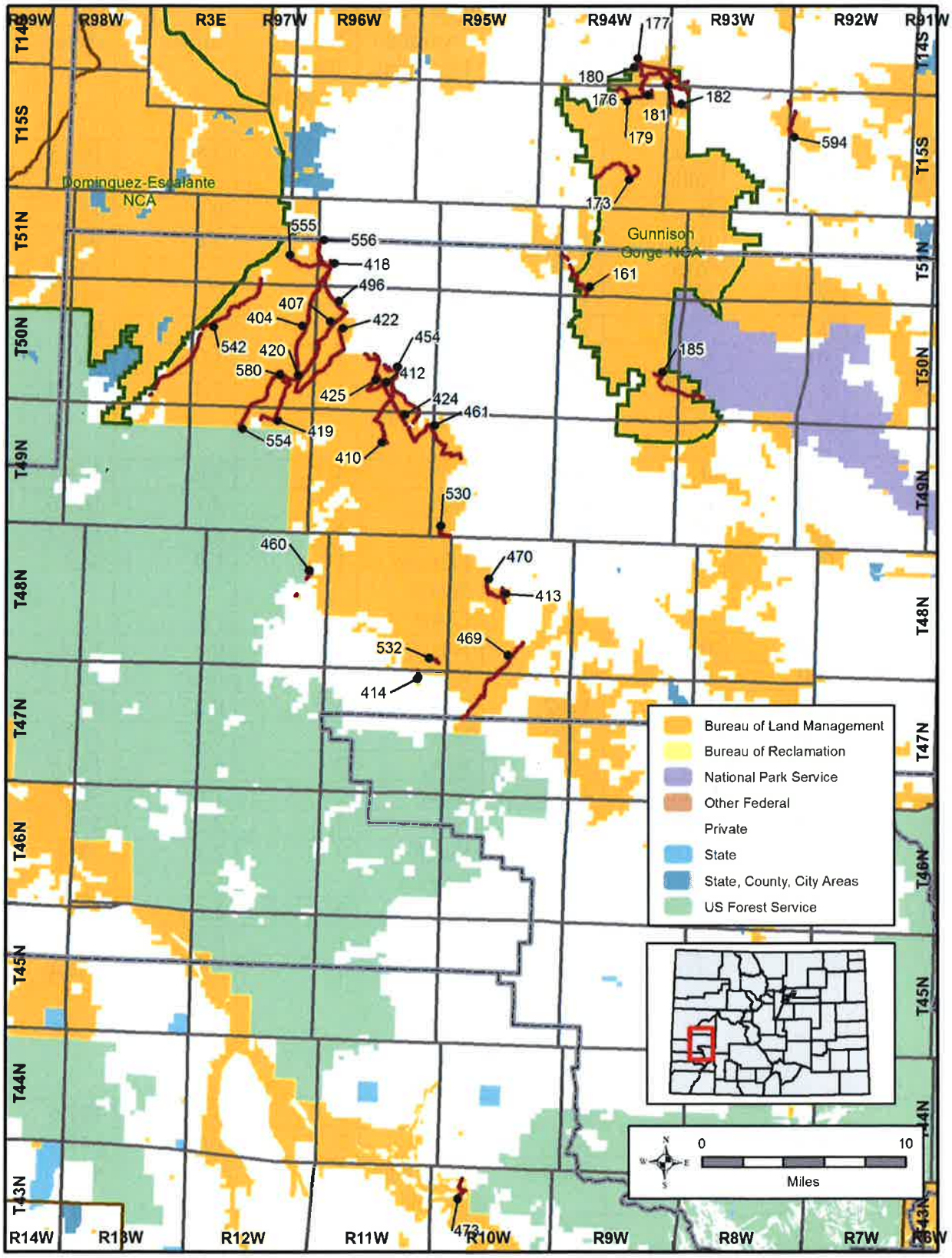


Table 1: Route Segments Where Crossing May Be Permitted

Route ID	Total Cattle	Total Sheep	Total Livestock	Overnight Locations	Max Times Used per Year	Miles	Acres
161	0	1000	1000	N/A	1	2.8	100.5
173	0	3000	3000	N/A	2	3.3	122.2
176	50	0	50	N/A	2	0.3	13.1
177	160	0	160	N/A	2	2.6	94.2
179	0	7000	7000	Gravel Pit	5	3.5	126.3
180	0	7000	7000	Gravel Pit	5	1.1	37.6
181	0	7000	7000	Gravel Pit	5	2.3	81.8
182	80	0	160	N/A	2	1.7	59.2
185	0	1000	1000	Brush Point 1 & 2	1	3.4	124.0
404	1402	0	1402	N/A	4	5.6	203.1
407	1402	0	1402	N/A	4	4.7	166.6
410	200	0	200	N/A	2	3.5	125.2
412	0	2000	2000	Flatiron Sheep Camp	1	1.9	66.1
413	200	0	200	N/A	2	0.5	17.4
414	200	0	200	N/A	2	0.4	14.1
418	1602	0	1602	N/A	5	0.2	8.3
419	150		150	N/A	2	3.5	127.1
420	1002	0	1002	N/A	2	4.1	145.5
422	0	4000	4000	N/A	2	1.0	36.7
424	260	2000	2260	N/A	3	2.3	83.7
425	0	4000	4000	Burch Corrals	2	2.1	73.9
454	120	0	240	N/A	2	3.6	128.7
460	130	0	130	N/A	1	0.5	18.1
461	0	2000	2000	Powerline or Flatiron Sheep Camp	1	5.6	204.4
469	430	0	860	N/A	2	5.3	193.6
470	400	0	400	N/A	2	1.7	64.0
473	0	1000	1000	Alexander Corrals	1	1.2	41.7
496	1602	0	1602	N/A	5	2.8	98.1
530	0	2000	2000	N/A	1	0.8	31.1

Attachment 1

Route ID	Total Cattle	Total Sheep	Total Livestock	Overnight Locations	Max Times Used per Year	Miles	Acres
532	400	0	400	N/A	2	0.4	17.5
542	1402	0	1402	N/A	4	8.0	292.5
554	1402	0	1402	N/A	4	4.1	146.1
555	1402	0	1402	N/A	4	2.2	78.8
556	1402	0	1402	N/A	2	1.5	53.3
580	1402	0	1402	N/A	4	1.0	35.2
594	0	2000	2000	South of Town	2	1.6	58.7

* County or State Roads and their right of ways do not require a crossing authorization from BLM

Table 2: Overnight Locations

Overnight ID	Overnight Name	Associated Route ID	Overnight Stipulations ?
10	Horseshoe Bend	177, 179, 180, 181	N/A
11	The Gravel Pit	177, 179, 180, 181	N/A
12	Brush Point Overnight 3	County Road No Route ID	N/A
13	Brush Point Overnight 2	185	Sheep 1 & 2
14	Brush Point Overnight 1	185	Sheep 1 & 2
19	Flatiron Sheep Camp	412	Sheep 1 & 2
20	Etchart Sheep Camp	461	Sheep 1
21	Grey Corrals	414, 532	Sheep 1
22*	Burch Corrals (PVT)	425	N/A
25*	Boyden Corrals (PVT)	418, 496, 555	N/A
26*	Alexander Corrals (PVT)	473	N/A